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THE FIRST TEN YEARS OF DUKE UNIVERSITY SCHOOL OF MEDICINE AND DUKE HOSPITAL

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The statement made fourteen years ago at the meeting of this society is again emphasized: "It is the great desire of everyone connected with Duke University so to carry out the plans that your cooperation will be merited. We all wish you to regard this school as yours. Any suggestions which will increase the service of this school to the state will be more than welcome."(1) It is a pleasure to report that since then the profession has been helpful in suggestions and constructive criticism. These, and suggestions from patients, have been given the most careful study, and many improvements have resulted. Duke Hospital seeks to serve the profession and the state, and the following report of ten years of hard work is presented not as a record of accomplishment but as an inventory which, it is hoped, will encourage further critical suggestions.

Duke Hospital

During the building program from 1927 to 1930, the following doubt was frequently expressed: "Where will the patients come from and will there be enough?" However, the experience of the past ten years at Duke has corroborated Osler's statement(2), quoted at the meeting of this society in 1927, that a large metropolis was not essential for a teaching hospital. The complete and unexpected recovery of the first patient, an apparently dying infant, admitted on July 21, 1930, may have been a happy omen, as the growth of the Hospital has exceeded everyone's anticipation. Seventeen patients were admitted that first day. By the fourth day, the hospital census was 50; by Armistice day, 1930, it was 100; and it reached its peak of 433 on May 3, 1940. The 100,000th patient was examined on April 8, 1938, and on the tenth anniversary of the opening of the Hospital, the 144,142nd patient was registered. Many of them have made repeated visits to the Hospital, which are not included in this total.

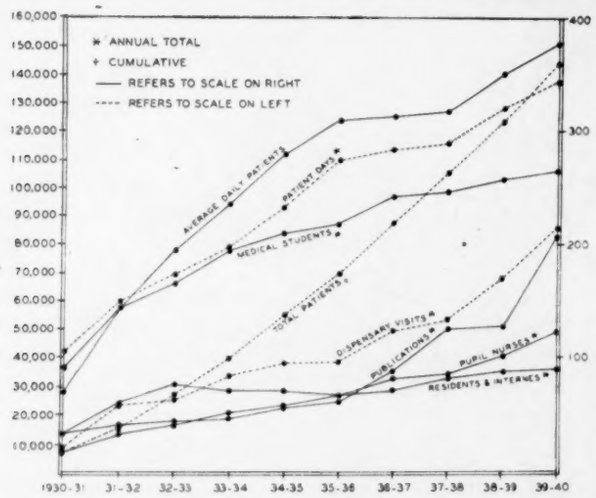
During these ten years, 3,662 infants have been born in the Hospital and 44,171 operations have been performed. Nearly one million days of hospital care have been given (fig. 1 and 2). Fourteen per cent of the patients come from a radius of twenty miles, and the remainder come from the other ninety-nine North Carolina counties and thirty-six other states. The average distance traveled is seventy miles. Instead of needing patients, as many predicted in 1927, Duke Hospital soon required more beds. A new medical building, with two floors of offices and examining rooms for the Medical and Surgical Private Diagnostic Clinics and 113 additional private and semi-private beds, was completed June 30, 1940, bringing the total beds to 604, including 50 bassinets.

Duke, as well as many other hospitals in

McBrayer Memorial Lecture, presented at the Second General Session, Medical Society of the State of North Carolina, Pinehurst, May 21, 1941.

From the Department of Pediatrics, Duke University School of Medicine and Duke Hospital, Durham.

1. Davison, W. C.: The Duke University School of Medicine, Tr. North Carolina M. Soc. 74:35 (April 18-20) 1927.
2. Osler, W.: Oxford—Student Life and Opportunities Offered to Rhodes Scholars; Yale Medical School—Improvements Suggested—New Departments and Clinics Needed, Yale Daily News, 36:1 (April 25) 1913.



GROWTH OF THE DUKE UNIVERSITY SCHOOLS OF MEDICINE AND NURSING AND DUKE HOSPITAL, 1930-1940 INCLUSIVE

Fig. 1

North Carolina and South Carolina, is providing sound medical and surgical treatment, but the really unique contribution is the diagnostic service of the Duke Dispensary and the Duke Diagnostic Clinic. It is now possible for physicians in general practice in North Carolina and surrounding states to obtain help in their diagnostic problems, not only for patients who can pay and who formerly were sent to Baltimore and Philadelphia, but also for the far greater number who have no financial means. The establishment of the teaching clinics of the Bowman Gray School of Medicine of Wake Forest College and the Baptist Hospital at Winston-Salem also will aid in the solution of this problem.

Public Dispensary

The Public Dispensary provides diagnostic service for patients who cannot pay the usual fees of consultants. In the 131 examining and treatment rooms, an average of 400 patients per working day are examined by members of the Hospital staff, which comprises eighteen specialties. During the past ten years, approximately 500,000 visits have been made. The Public Dispensary charge is $1 to $5 for the first visit and 25 cents to $1 for return visits, plus the actual cost of x-rays and other materials used. If physicians will make appointments in advance for their patients, troublesome delays will be avoided.

Private Diagnostic Clinic

The Private Diagnostic Clinic was organized to co-ordinate the diagnostic studies, and to give better care at moderate cost to private patients. The clinical staff of Duke Hospital and the Duke School of Medicine forms the professional staff of this Clinic, while the financial side is handled by a business manager.

Medical Students

Duke has had 696 medical students, 27 of whom are women. They were selected from 6,986 applicants—a ratio of one admission to ten applicants. Those admitted attended 261 universities and colleges and came from 42 states, 25 per cent being from North Carolina. Of the 374 medical graduates, 209 are still interns and residents. Of the 165 in practice, 40 per cent are in general practice and the remainder are in twenty-five specialties, the majority being in internal medicine, surgery, pediatrics, public health, orthopedics, otolaryngology and ophthalmology. As a result of the present crisis, the number who hold Army or Navy commissions is increasing rapidly, and the 65th General Hospital is being organized by the staff, graduates and former interns. Sixty-seven per cent of the Duke graduates born in North Carolina, and 14 per cent of those born elsewhere are practicing in twenty-nine towns in North Carolina. An additional 25 per cent of the graduates have located in ten other Southern states—a total of 54 per cent practicing in the South. The remainder are in 19 Northern and Western states and one foreign country.

Interns and Residents

The 312 interns and residents who have spent one to seven years in Duke Hospital during the past ten years are in every sense graduate students, who are receiving instruction as well as gaining experience. Forty-three per cent of the resident staff were graduated from Duke, and 57 per cent from forty-six other medical schools. A hospital, like a medical school, increases the number of physicians practicing in the state—for example, of the 153 former members of the Duke Hospital house staff who were graduated from other medical schools and who are now in practice, 38, or 25 per cent, have located in fourteen towns in North Carolina, making a total of thirty-seven towns in the state with one or more Duke graduates or former interns.

Statistics of the Duke University Schools of Medicine, Nursing and Dietetics, and Duke Hospital, 1930-1940

Year	1930-1931	1931-1932	1932-1933	1933-1934	1934-1935	1935-1936	1936-1937	1937-1938	1938-1939	1939-1940	Total 1930-1940
Medical Students	70	144	165	193	210	217	241	244	256	259	696—1
Medical Graduates2	0	17(5)	14(3)	34(5)	48(8)	38(12)	54(6)	51(11)	60	58(5)	374(55)
Interns and Residents	16	33	41	49	57	64	71	80	85	86	312—3
Pupil Nurses	33	60	74	69	69	65	78	82	98	119	402—4
Nursing Graduates5	------	------	14	22	19	15(1)	19(6)	18(19)	23(18)	21(19)	151(63)
Student Dietitians	1	3	3	4	4	4	4	4	6	6	39
Total Patients6	6,248	15,754	26,422	39,796	54,659	69,469	87,095	104,136	122,810	143,180	143,180—7
Average Daily Patient Census	91	143	193	234	279	308	311	316	350	375	----------
Maximum Daily Census	------	----------	----------	278	339	348	355	360	389	433	----------
Total Days of Hospital Care	42,269	60,362	69,521	78,103	92,336	109,150	113,654	115,474	127,710	137,307	945,886
Percentage of Part and Full Charity	62	65	79	76	66	68	64	56	56	52	----------
Total Visits in Public Dispensary	9,581	22,959	24,428	32,938	37,641	38,026	49,538	52,364	66,946	85,536	419,957
Scientific Publications by Staff and Students	33	38	41	45	56	62	87	124	126	204	816

1—627 First-year, 5 Second-year and 64 Junior students (total 696) were admitted 1930-1939 inclusive from 6,986 applicants.

2—The first figure indicates those who received the degree of Doctor of Medicine and that in parentheses those who also received the degree of Bachelor of Science in Medicine.

3—Total interns, assistant residents and residents who have spent 1-7 years in Duke Hospital, 1930-1940.

4—Total First-year pupil nurses admitted 1930-1939.

5—The first figure indicates those who received the Diploma in Nursing and that in parentheses those who also received the degree of Bachelor of Science in Nursing.

6—These figures are cumulative; each new patient (Hospital, Public Dispensary and Private Diagnostic Clinics) is given a consecutive number which remains the same regardless of the number of times he or she returns to the Hospital.

7—On July 21, 1940, the tenth anniversary of the opening of the Hospital, the 144,142nd patient was registered.

Fig. 2

Postgraduate Study

The School of Medicine is not limited to the training of its own students and staff, but extends to the members of the medical profession the benefit of everything it has. Graduates in medicine are welcomed especially at the various clinics and demonstrations in medicine, surgery, obstetrics, and other specialties, which are held from 9 a. m. to 12:30 p. m. each Saturday and at the clinical-pathological conferences at 5 p. m. on Fridays. Postgraduate internships, for one or two weeks, are available to physicians in practice. No fees are charged; room and board can be obtained for $10 per week. Each October for the past six years a three-day postgraduate symposium has been given at Duke. During the past ten years 243 visiting lecturers have given clinics and lectures at Duke Hospital, to which the medical profession has been cordially invited. Through the cooperation of the medical schools of the University of North Carolina, Wake Forest College and Duke University, two-day postgraduate clinics have been given each year at the Lincoln Hospital, Durham, for the colored physicians of the state. This year, through the efforts of the State Board of Health, the School of Public Health of the University of North Carolina, and the U. S. Children's Bureau, five-day courses in obstetrics and pediatrics for general practitioners are being given every week at Duke Hospital.

Research

A medical school has a triple function—the care of patients, the training of physicians and the addition to medical knowledge, or research. The last is necessary not only to extend the frontiers of medical science, but also to stimulate the staff and students. Medical students, through research, should be encouraged to develop an open mind toward new discoveries, a spirit of inquiry, a habit of curiosity[3], critical judgment, and a healthy scientific scepticism as antidotes to the therapeutic credulity so easily bred by pharmaceutical detail men[4].

This research work during the first ten years has produced eight hundred and sixteen publications, including six books. The following are some of the subjects studied: fungus infections, nutritional problems (pellagra, sprue, etc.), virus diseases, wound infections, brucellosis, Hodgkin's disease, tetanus, rabies, diabetes, endocrine disturbances, amebiasis, parasitic infestations, lung abscess, osteomyelitis, poisoning, anemia, empyema, the sulfonamides, electro-encephalograph, toxemia of pregnancy.

3. Weed, L. H.: Some Tenets of Medical Education, Bull. Johns Hopkins Hosp. 45:203 (October) 1929.
4. Davison, W. C.: Qualities Which a Medical Student and Practitioner Should Have or Develop, J. A. Am. M. Coll. 16:278-281 (September) 1941.

Staff

Engaged in the teaching of students, the care of patients, and research are ten professors, one hundred and thirty-one associate and assistant professors, associates, instructors and assistants, ten residents, thirty-seven assistant residents and forty-eight interns—a total of two hundred and thirty-six.

Costs

The present budget for the Hospital is $940,000 and that of the School of Medicine is $460,000—a total of $1,400,000. For every dollar of the Hospital costs the patients pay 58 cents, and for every dollar of the School of Medicine expenses the students pay 28 cents, 30 per cent of them being assisted by the loan fund mentioned below. This clearly indicates the eleemosynary character of the institution (fig. 3).

Hospital Rates

During the first three years, over 90 per cent of the patients paid nothing. However, it was obvious that most of the patients or their friends, church, lodge, or county welfare department could afford at least part of the cost, if Duke Hospital furnished the balance. Therefore, in 1933 the Hospital adopted Mr. Duke's cooperative plan that the Duke Endowment and the counties share the charity load. Seventy-two per cent of the patients still pay less than cost, but by having them contribute in accordance with their means, Duke Hospital, with the same amount of money, now is helping 13,000 patients to be treated annually instead of giving complete charity care to 4,000[5].

In 1933 the inclusive or flat rate also was adopted. This replaced with a single charge the usual room rate plus an indefinite number of extra expenses, and made it possible to estimate in advance the probable cost of hospitalization and to adjust the bill to the patient's resources. This policy of basing the rate upon the amount the patient can pay, rather than on the actual cost, has enabled many who under the former system unnecessarily were objects of charity to maintain their self-respect by contributing a fixed sum within their means. The patient has been greatly benefited; for there is no test or procedure needful to his medical care which is not given him. Of importance at the present time is the experiment in intensive nursing being conducted on one of the new wards of the Hospital. If it is successful, the need for special nursing by those unable to afford its relatively high cost will be largely obviated. The fact that the room rates include these extras should be remembered when comparing the charges at Duke with those of other hospitals.

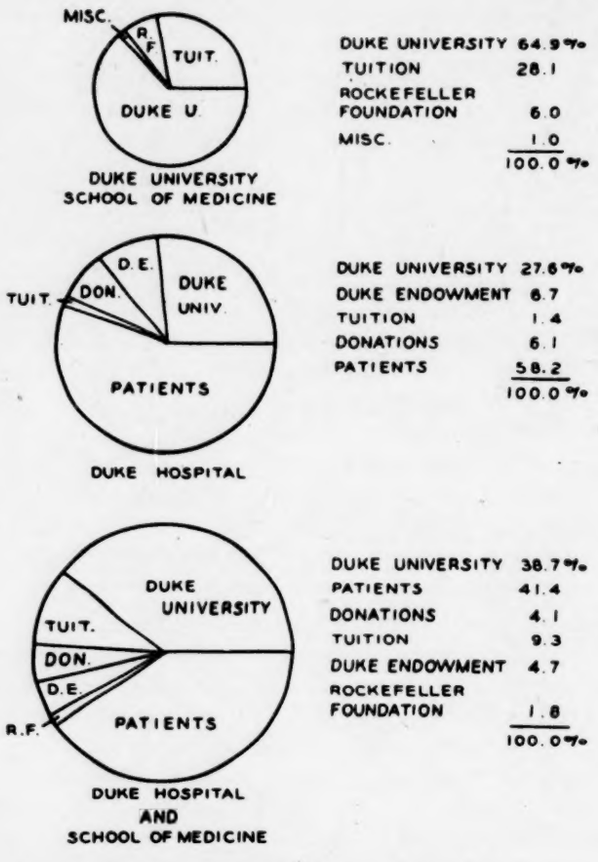


Fig. 3

Hospital Care and Saving Associations

The Hospital Care and Saving Associations, through which large numbers of individuals make regular fixed payments into a common fund, have enabled self-supporting citizens to provide for hospital care in their budget. The Hospital Care Association, organized August 5, 1933, through the cooperation of the Watts and Duke Hospitals, and the Hospital Saving Association, sponsored by this Society and started March 11, 1935, with the aid of a grant from the Duke

5. Davison, W. C.: Medical and Hospital Facilities Available to Children in North Carolina, North Carolina M. J. 2:345 (July) 1941.

Endowment, have 62,000 and 147,500 members respectively.

Service to the State

In addition to the care of patients, the teaching of medical students, and research, the School, Hospital and the Duke Endowment are trying to help with the following six of the most pressing problems in North Carolina:

1. Neuropsychiatry: As Dr. Hubert B. Haywood has emphasized[6], the state program in mental hygiene is of growing importance. The new department of neuropsychiatry at Duke already is cooperating with these plans, as well as filling the needs of the School and Hospital. The department is making every endeavor to be of service in the development of neuropsychiatry in the state.

2. Public health: More trained health officers are needed. The instruction in this field is an example of the growing cooperation between the University of North Carolina and Duke University. The Staff of the School of Public Health at Chapel Hill teaches the Duke medical students, and Duke University contributes to the budget of the University of North Carolina. A similar plan will be followed by the Bowman Gray School of Medicine of Wake Forest College.

3. The ratio of physicians to the population in North Carolina is only 55 per cent of the national ratio[7]. In some counties, the ratio of physicians to the population is as low as 1:5,164[8], although 1:1,000 is considered necessary, especially in rural communities. During the last five years Duke graduates and former interns have located in thirty-seven towns in the state, and the number is increasing.

4. North Carolina, as well as other states, needs more general practitioners. A well-trained general practitioner can and does successfully treat over 80 per cent of disease, and as his volume enables him to treat his patients at a lower cost, the public needs and wants more general practitioners. The fact that 75 per cent of the present American medical graduates are or plan to be specialists who are needed by less than 20 per cent of the patients is an indication not only of the overcrowding of the specialties, but also of the urgent need and wide-open opportunities for general practitioners. This plethora of specialists has caused such competition and crowding that in many North Carolina communities the financial rewards of general practitioners, with their reduced competition, are higher than those of specialists. All graduates, and especially those desiring to enter general practice, should spend at least two years in hospital work. This is required of all Duke graduates, and 80 per cent of them have spent more than this minimum. Duke Hospital is making a contribution to the training of general practitioners by adding to its "straight" internships in other fields a combined obstetric-pediatric internship of one year. Forty per cent of the present Duke graduates are in general practice[9].

5. North Carolina needs more rural physicians. The ratio of physicians to the population ranges from 1:261 in an urban county to 1:5,164 in the country[8]. The area per physician in some rural communities is 203.8 square miles. Forty-three per cent of the population, but only 30 per cent of the physicians, are located in sixty-four predominantly rural counties[10]. To get country doctors, it must be possible for students from the rural communities to study medicine. The country lawyer, the country preacher, the country banker and business man, as the country doctor, do not go from cities; they come from the country[11]. Graduates tend to return to the environment to which they are accustomed. For example, 83 per cent of the country students at one medical school returned to rural practice, and 80 per cent of the urban youths later practiced in the city[12]. Duke is helping with this problem through its loan funds.

Rural students rarely are wealthy or have resources for raising money. Probably the best way by which a sufficient number of country students can attend medical school is through loan funds, which can be repaid

6. Haywood, H. B.: Mental Hygiene in North Carolina, North Carolina M. J. 2:139 (March) 1941.
7. Davison, W. C.: A Survey of Medical Education in the South. Address at the Inauguration of Oliver C. Carmichael as Chancellor of Vanderbilt University and a Symposium on Higher Education in the South. Nashville, Tenn., Vanderbilt University (February 4) 1938.
8. Cooper, G. M.: Ten Years in Maternity and Infancy Work in North Carolina, South. M. J. 34:437 (April) 1941.
9. Davison, W. C.: Opportunities in the Practice of Medicine, J. A. M. A. 115:2227 (December 21) 1940.
10. Rankin, W. S.: Third and Tenth Annual Reports of the Hospital Section of the Duke Endowment, Charlotte, N. C., 1927 and 1934.
11. Pusey, W. A.: The Trend in Medical and Nursing Services J. A. M. A. 82:1960 (June 14) 1924; Medical Education and Medical Service, J. A. M. A. 86:1501 (May 15) 1926.
12. Hyman, W. O.: Southern Medical Colleges Must Maintain Enrollment at Least at its Present Level, J. A. Am. M. Coll. 12:301 (September) 1937: The Number and Distribution of Physicians in the Southern States as Bearing on the Policies of Southern Medical Colleges, South. M. J. 30:85 (January) 1937.

over a period of years, thus becoming available for future students. Scholarships, such as those recently recommended for rural students by Governor Talmadge of Georgia, are splendid, but expensive, and do not create in graduates a healthy sense of obligation toward their community and university. The Angier B. Duke Memorial Loan Fund has enabled practically every Duke medical student to continue his education. During the past ten years, 195 medical students, or 30 per cent of the enrollment, have borrowed $117,125 in amounts of $150 to $1500. Six per cent interest is charged. The usual length of these loans is twelve years—three years in medical school, three years in internships, and six years in installment repayment. These loans to medical students were made from 1930 to 1940, and it will be several years before most of them are due. During this period, $31,899 has been repaid on the principal and $25,169 was paid as interest.

6. The ratio of North Carolina hospital beds to population, like the ratio of physicians to population, is 55 per cent of the national average, indicating that the distribution of physicians and the distribution of hospitals are mutually dependent. Recent graduates rarely will practice and remain in a community without a hospital. The establishment and maintenance of rural hospitals in North and South Carolina, with the aid of the Duke Endowment, not only is improving medical service in the country, but also is attracting young medical graduates there. This is a contribution to medical education as well as to medical service.

Evaluation

The School of Medicine from the beginning has been approved as Class A by the Council on Medical Education and Hospitals of the American Medical Association, and is a member in good standing of the Association of American Medical Colleges. The Survey on April 20-22, 1935, by these two groups placed Duke among the best 25 per cent of the medical schools. Duke Hospital has been approved for internships and residences by the Council on Medical Education and Hospitals of the American Medical Association, and by the American College of Surgeons.

Summary

The statistics of these first ten years are listed in figures 1 and 2. All of us realize that the progress of the School and Hospital during their first ten years can be continued only by the close friendly cooperation of the faculty, house staff, students, medical profession and public, which has been maintained from the beginning. Every effort is being made toward that goal.

THE MEDICAL PROFESSION AND THE PROBLEM OF MENTAL DISORDER

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Of late years medical literature has been calling our attention afresh to the magnitude of the problem of mental disorder. The Chief of the United States Bureau of Vital Statistics informs us that over half of all available hospital beds in the nation are occupied by mental patients. He calls the problem of mental disorder "the greatest of all public health problems"[1]. Dr. Franklin G. Ebaugh of the Colorado University School of Medicine states that, according to present figures, out of every twenty-five individuals reaching adulthood, one will be a chronic custodial problem, four will be severely neurotic, and eight will be handicapped through milder neurotic disturbances[2]. Dr. E. A. Strecker of the University of Pennsylvania School of Medicine estimates that 75 per cent of patients seen by the general practitioner during the first ten years of his practice are psychopathic cases[3].

Competent authorities have told us that, with the prevailing trends towards mental illness, well over a million of the boys and

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Read before the Second General Session, Medical Society of the State of North Carolina, Pinehurst, May 21, 1941.

1. Dunn, Halbert L.: Human Relations as a Public Health Problem, Am. J. Public Health 30:1318 (November) 1940.
2. Ebaugh, F. G.: The Care of the Psychiatric Patient in General Hospitals, Bull. Am. Hosp. A., No. 207, p. 16.
3. Strecker, E. A.: Psychiatric Education, Mental Hygiene, 14:797 (October) 1930.

girls now in our public schools will spend some time of their lives in mental hospitals[4]. Every year 750,000 individuals develop nervous breakdowns[2]. The statistical tables show that every year 100,000 of these are committed to mental hospitals. Without doubt many more would be admitted to state hospitals if there were room. Most state hospitals have a population in excess of capacity; in some states the excess of patients beyond capacity reaches as high as 40 per cent; the figure for the nation as a whole is 11 per cent over capacity. Dr. Ebaugh quotes a study which reveals that during the last fifty years the increase in institutional cases has been 300 times greater than that of our general population[2]. Several factors have to be weighed against these figures, but there seems no doubt that mental disorders are increasing[5].

Most of the institutional mental cases are of course wards of the states. Let it not be supposed, however, that the state took these patients out of the hands of the medical profession. The profession was doing very little about the care of these unfortunates, and when state hospitals were founded the patients were brought from jails and prisons and poor-houses, or were found chained in cellars or barns of their own homes[6]. It might indeed be said that the state, taking these mental cases from the places I have named, put them into the care of the medical profession; for the staffs of state hospitals throughout the nation consist of physicians most of whom are members of their local medical societies and therefore a part of organized medicine. It is true that state hospitals are under the control of state or local boards, but the practical care and treatment of the patients is under the direct control of medical men. The point I make is that the problem of mental disorder is in medical hands, and that the failure to make progress in this field commensurate with progress in other branches of medicine is the failure of the medical profession. I raise the question as to whether our failure has not been due to lack of interest in this branch of our profession. Most of us are all too ready to get such patients into institutions and wash our hands of the whole matter.

4. Griffin, Laycock, and Line: *Mental Hygiene—A Manual* for Teachers, New York, American Book Co., 1940, p. 4.
5. Dayton, Neil A.: *New Facts on* Mental Disease, Baltimore, Charles C. Thomas, 1940, chap. 11.
6. Deutsch, Albert: The Mentally Ill in America, Garden City, N. Y., Doubleday, Doran and Co., (a) p. 44; (b) p. 115; (c) chap. 9.

The interest of lay groups in projects about which the medical profession is wide awake and their financial support of such projects is a matter of factual history. One is justified in the assumption that a greater concern on the part of the medical profession about the grave and growing problem of mental disorder would lead to more concern on the part of lay groups. This would mean larger appropriations on the part of legislatures for the care and treatment of the mentally sick. It would also influence benevolent individuals and foundations to contribute financial support to research projects directed towards a more adequate understanding of the factors involved in this tragic and baffling condition. I think I am correct in saying that modern psychiatry holds that mental diseases, in common with other diseases, have a cause, a beginning, and a course of development, and are just as susceptible to treatment and prevention as are physical diseases. But knowledge of etiology, course, cure and prevention lags far behind such knowledge in the field of general medicine. Since the time of Pasteur, Lister and Koch hundreds of millions of dollars have been spent in research work on the so-called physical diseases. As compared to this the amount spent in research in the field of mental disorder is a mere trifle. Dr. Nolan Lewis, Director of the Psychiatric Institute of New York, recently remarked that the Federal Government and a number of other sources have voted money for the study of cancer, syphilis, infantile paralysis, malaria and yellow fever, but dementia praecox, which destroys more people and careers than all the others added together, is not included in the average health program[7]. It would seem that in making progress in the field of mental disorder one of the first things to be done is to secure a more acute awareness of its magnitude and gravity on the part of the medical profession.

What practical things can members of the medical profession do in relation to the problem we are considering?

1. In the first place they can use their influence to get sufficient and adequately trained medical staffs in state hospitals—physicians who take such positions because they are genuinely interested in the practice of psychiatry. Not infrequently one hears the charge that too many of the men on state

7. Lewis, Nolan: Mental Hygiene of the Senium, Mental Hygiene 24:484 (July) 1940.

hospital staffs are there, not because they are interested in psychiatry, but because they have failed to make a living in private practice; or else they are young men just out of school who want a job for a year or two while they are looking around for a location in private practice. When salaries in state hospitals are 25 to 50 per cent below the average income of physicians in general it is easily conceivable that such a statement might be true. However, it is not true to the extent that even the medical profession commonly believes. On the staffs of state hospitals are large numbers of skillful medical men who work under great difficulties, enduring almost intolerable conditions and vile abuse, but continuing on year after year because of a deep and abiding interest in the victims of insanity and because of an insistent urge to try to find some way out of this quagmire into which civilization seems to be plunging itself.

2. Physicians may see that the medical profession is adequately represented on the boards of control of mental institutions. After all, mental disease is a medical problem and mental institutions are hospitals, and who can more efficiently serve on such boards than medical men? It surely would not be extravagant to suggest that at least a third of the members of such boards should be physicians. By such a provision the attention of the board would be maintained upon the chief function of the institution—namely, the treatment and cure of patients. Without this medical emphasis there is always grave danger that the institutions will be run as business or agricultural organizations and the patients forgotten or thought of only as necessary machinery to do the work. The men and women serving on such boards are usually citizens of high integrity and noble ideals, but because they lack the physician's viewpoint the center of their interest becomes focused in the administration of the institution rather than the curing of the sick. As a result of this I have known instances in some states where at the end of the fiscal year, in spite of the hospitals being much understaffed and their staffs much underpaid, boards have, with pride, turned back into the state treasury thousands of dollars. This is thought of as saving money for the state, but it is a mistaken sense of economy. It is difficult to get the non-medically minded citizen to see that in the long run he might save the state much more by spending this money for the purpose for which it was appropriated—namely, to treat patients and get them well.

Perhaps I ought to go on to say that I have found superintendents of state hospitals in some states rather reluctant to have physicians on their managing boards. There are two reasons for this. One is that the physicians on the board sometimes ask embarrassing questions. The business men on the board ask questions which can often be answered by referring to the business manager's figures or estimates. The physician is likely to ask questions such as: What is being done by way of treatment? How many patients have recovered this year? What is being done to enable them to keep out of the hospital? What is the staff contributing towards an understanding of the causes and prevention of mental illness? Such questions, when asked by a physician, are at times embarrassing for a superintendent. When they are asked by a layman he can cover up the true state of affairs by elaborate phraseology.

Another reason why medical men are reluctantly received on the managing board of a state hospital is that they sometimes assume that because they are physicians they know all about the treatment of mental patients. The treatment of hostile, non-cooperative patients, whether it be for their delusions or depressions or for broken bones, skin infections, pneumonia or sore throats and the like, is hard and difficult work, taxing endurance and skill to the utmost. A doctor on a state hospital board who does not have the imagination and sympathy to realize this and who thinks that in a mental hospital the same techniques can be used and the same results attained as in his office or in a general hospital is likely to be a sore trial to the overworked state hospital staff.

But physicians serving on state hospital boards with sympathy and understanding of the problems involved can render a great service both to the patients and to the staff doctors. Professional mortality in state hospitals is high; doctors in these institutions, because of the large number of patients they have to care for, often become defeatists; they lose the urge to discover causes, to understand symptoms, to develop therapeutic approaches; and they tend to become mere job holders. Physicians on the boards of control can quietly exert influence to keep the overworked staff alive at the growing end; to remind them of the desperate need

to discover etiologies and ways of prevention, to enlarge understanding of symptomatology and to develop therapies. They can subtly and insistently keep alive in the atmosphere of the institution the demand of the medical profession that physicians holding such staff positions shall be psychiatrists and not mere wardens and pensioners.

3. A third approach to the problem of mental disorder can be that of the medical school. On this I say little, because medical schools are only now beginning to work out what aspects of psychiatry they shall include in the curriculum and how much time they shall give to it. But all those who are in touch with medical schools know that the teaching of psychiatry is a vastly more dynamic and practical thing than it was fifteen or even ten years ago. In our own state we have Duke University Medical School, with a fully developed and well-manned department of psychiatry under Dr. Lyman and Dr. Crispell. The Bowman Gray School of Medicine of Wake Forest College is in the process of setting up a strong department of psychiatry under Dr. John A. Rose. Dr. M J. Rosenau has assured me that it is the purpose of the School of Public Health at Chapel Hill to see that public health officials are adequately trained in psychiatry to meet the mental health problems which form no small part of the job of doctors working in the city and county health departments. This increasing emphasis upon psychiatry as an important part of the education of physicians is indeed encouraging.

4. But more important than all I have so far mentioned relative to the medical profession's part in the prevention and cure of mental disorder, both in its grave and in its minor forms, is the part which the doctor in private practice might play. I am not unaware of the place of the specialist. No doubt all of us have had the comfort of calling to our aid, when faced by a difficult, obscure case, a man whose special training and accumulated experience make him competent to tell us what can be done, or, more important perhaps, what cannot be done in such a condition. But the tendency in medical practice today to call for a specialist whenever a difficulty arises is almost an addiction and may be chronically disastrous in undermining self-confidence and professional understanding and skill. Probably the general practitioner is apt to think of mental disorder more than any other branch of medicine, as being a problem for a specialist, and he is all too prone not to try to understand it nor to do anything about it.

When I was a medical student in Chicago I went every morning along a street where an enterprising physician, perhaps not altogether ethical, had hung out a large sign announcing himself as a specialist in the diseases of men, women, and children. That was covering a lot of territory, but, after all, is that not what every physician in some measure is? Every one of the two million or more mentally ill persons in the United States[1] belongs in the category of men, women, and children whom doctors are treating. I do not recall ever examining an institutional patient who had not been treated by one or more doctors in private practice for some aspect or other of the trouble which ultimately led to the mental hospital. That a very large proportion of the 500,000 or more patients in mental institutions in the nation had been treated many times by a physician or many times by many physicians before being committed to institutions may not be the fault of the doctors, but certainly it is little to their credit. May it not be due to the fact that they were much concerned with diseases and not enough concerned with men, women and children?

In the *Journal of the American Medical Association* for April 12, 1941, it is estimated that 85 per cent of physicians are in general practice, and it is suggested that such a proportion is desirable. What can this 85 per cent of physicians do towards preventing the 750,000 mental breakdowns which occur during the year? First, they can stop making psychoneurotics. The mannerisms, dogmatisms, and indecisions of physicians, and their ignorance of personality development and of personality needs[8] must be regarded as having major etiological importance in the production of the psychoneuroses. Second, they can take to their hearts more rapidly and more absorbingly the new emphasis in our profession that our business is to treat the patient and not merely his heart, or lungs, or genitalia. Third, they can accept *themselves* as their most important therapeutic agent. The doctor writes in his prescription a minim of this, a grain of that,

8. (a) Spock and Huseckha: The Psychological Aspects of Pediatric Practice, in The Practitioners Library of Medicine and Surgery, vol. 13, p. 757.
(b) White, W. A.: Medical Psychology, Washington, Nervous and Mental Disease Pub. Co., 1931. (a) p. 1; (b) p. 135.

an ounce of something else, directions for mixing it and for taking it, and then finally he signs himself. It may well be that the last thing written on the prescription is the most active therapeutic ingredient. The amount of confidence that men, women, and children have in doctors is marvelous. The high estimate they place upon his knowledge and skill is amazing in the light of the actual facts as we know them. This confidence and devotion might well be used in larger measure for the maintenance of the mental health of the people. Sticking with a needle, cutting with a knife, ordering a drug are the easy ways of the doctor. They are of course important and their use must be continued and improved. But the hard way of personal interest and concern for the patient as a whole must play a larger part in the therapy of the office and of the general hospital if the medical profession is going to stem the increasing flow of their patients into mental institutions.

5. A fifth practical thing physicians can do relative to the problem of mental disorder is to cooperate more fully and more humbly with other professional groups. Dr. I. J. Wolf closes his autobiography with a quotation from Descartes: "If ever the human race is raised to its highest practical level intellectually, morally and physically, the science of medicine will perform that service." The medical profession has contributed and will continue to contribute much towards the advancement of the human race, but when it takes the arrogant attitude of Almightiness suggested by this quotation it is apt to become dictatorial and intolerant. Fortunately such an attitude is not the predominant one among doctors, and in all movements for the betterment of standards of living and human relations physicians are well represented. However, in proportion to their training and skill and the high place they occupy in community esteem doctors lag behind in willingness to do team work with other professions. Dr. A. E. Baker, President of the Tri-State Medical Association in 1940, made it the theme of his presidential address at the Richmond meeting to challenge the profession to larger community interest[9]. Not only may the doctor contribute much toward the pooling of skills with other professions in the effort to maintain conditions which make for mental health but he may also learn things which will make his own practices more effective. Granted that the physician is probably the most expensively and most intensively trained of all professional men today, yet the social case worker, the educator, the clergyman, the psychologist and other trained workers may teach him things which will make him more effective in combatting mental disorder. Particularly might the physician gain much by closer cooperation with the psychologist and educator, for often while being well trained in the normal functioning of the body he is entirely innocent of the normal functioning of the mind. While of necessity he has spent much time in the study of physiology, frequently he has not even been exposed to psychology.

Without doubt I could have interested you by reviewing the latest psychiatric thinking relative to etiology in mental disorders. Or I could have given you the statistics for and against the value of the later therapeutic methods in this field—pharmacological and electric shock treatments, prolonged narcosis, fever therapy in general paresis, hormones in involutional melancholia, the "total push" therapy in dementia praecox, the various forms of psychotherapy and so forth. And yet again we could have discussed together the trends in symptom interpretation, the attempts to understand why the mentally disordered person behaves the way he does. All these things should be discussed in general medical meetings. I am constantly urging upon state hospital staffs that they should seek frequent opportunities to present, both at the state meeting and at the meetings of the county medical societies adjacent to their institutions, the therapies they are using and the results they are securing. I have also urged the committee on mental hygiene of the State Medical Society to interest county medical societies in asking psychiatrists to present these subjects. Such presentations would serve the twofold purpose of keeping the general practitioners informed on progress and failure in psychiatry and of compelling the psychiatrist himself to evaluate his work. But this paper is more concerned with calling the attention of the medical profession to the fact that here is a field in which we are derelict and to state a faith that the doctor in general practice can do much to prevent this if he will work for the

9. Baker, A. E.: Good Citizenship and the Medical Profession, South. Med. and Surg. 102:99 (March) 1940.

mental health of his patient as persistently as he does for physical health, from the time the child draws its first breath[10] or even before it is conceived.

I agree with those who regard the problem of mental health as the greatest of all our health problems. It seems to me that it is high time that the rank and file of the medical profession became acutely aware of its gravity and more seriously concerned in doing something about it. They can do much towards lifting the standards of mental hospitals and towards encouraging medical schools in their new interest in psychiatric instruction; they can cooperate with other professions in changing conditions which help precipitate mental breakdowns; but more than all this, by fearlessly regarding the maintenance of mental health as a medical responsibility, and accepting mental illness as something a doctor must study and treat in its incipient and early stages, they can in their own offices and on their own wards in general hospitals prevent and cure a substantial proportion of it.

I do not underestimate the value of the expert and the need of research in this difficult field. Perhaps there is no branch of medicine where at present the specialist and the research worker are more desperately needed. But we must not wait for them nor leave it all to them, any more than we do in other fields of medicine—and that, alas, is what we have been doing. Dr. Chauncey D. Leake reporting at the "Annual Congress on Medical Education" in February, 1941, says in effect that the general practitioner is preeminently a specialist in preventive medicine[11]. If he can function as a specialist in preventive medicine in the field of mental disease, as I believe he effectively can, his contribution to the health of the nation will be enormous. For, after all, what shall it profit a man if he maintain all other health but lose his mind?

10. Strecker, E. A.: Beyond the Clinical Frontiers, New York, W. W. Norton, 1940, p. 198.
11. Leake, Chauncey D., in J. A. M. A. 116:1721 (April 12) 1941.

Interest in Humanity.—The good physician knows his patients through and through, and his knowledge is bought dearly. Time, sympathy, and understanding must be lavishly dispensed, but the reward is to be found in that personal bond which forms the greatest satisfaction of the practice of medicine. One of the essential qualities of the clinician is interest in humanity, for the secret of the care of the patient is in caring for the patient.—Francis W. Peabody: Doctor and Patient, New York, The Macmillan Co., 1939.

PUBLIC HEALTH AND NATIONAL DEFENSE

M. J. ROSENAU, M. D.
CHAPEL HILL

If we want to preserve our way of life, we must preserve our health. Health is clearly the first line of defense—in peace as well as in war. By health, I mean total health, physical and mental. One of the first symptoms of undernourishment is ill temper, which may express itself in asocial disturbance and violence. We need sturdy health for speed and efficiency in preparedness. The morale of an army riddled with disease cannot be good. That applies also to civilian population; for today it is the civilian population, as much as the troops, that takes the shock of war.

Battles are not always won by bravery alone. Germs make no distinction between friend and foe. They know no geographical boundaries. They don't understand "isolation" and "effort short of war" and "neutrality", and such terms.

The first World War would have been the first war in history in which there were fewer casualties from bacilli than from bullets if it had not been for the influenza epidemic. That spoiled our health record.

The disease of the soldier is a reflection of the disease of the population. There is an interchange of germs between military forces and civilian population. If we have measles in a community, it will surely get into camps or aboard ships. The same is true of diphtheria, venereal diseases and all the others. The action is also reversible, and infections in military forces are passed back into civilian population. It is this interchange of disease that must engage our attention; for it may be controlled and in many cases actually prevented.

In war as it is waged today there is unusual movement of large numbers of persons, both the military forces and the civilian population, over long distances. Troops from Australia fight in Africa. African soldiers will be used in Asia. There has never in the history of the world been such a migration of people as a result of war. This carries pestilence from one section of the world into another, and favors the interchange of dis-

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ease which is one of the accompaniments of nearly all wars. It breaches the barrier of geographic isolation. People go to foreign countries and there meet foreign parasites to which they are not accustomed and to which they are not immune.

If we want to preserve the health of both the civilian and military forces, we must have trained personnel and competent health organizations to do it. We have to take care lest our health organizations are disabled and our training centers disrupted. They must not be too seriously depleted to carry on their functions, for trained personnel in all phases of health activity must be on hand to fill the ranks. Even if there were no emergency there is at the present moment a need for trained personnel. I believe that if we disable our health organizations and neglect the good work that they are doing now, we will again have an increase in typhoid fever, in diphtheria, in tuberculosis and in all those other diseases which we have partially conquered.

In our state we have a forward looking health officer, Dr. Carl V. Reynolds. From the beginning of the defense program he has done his best to see that in the selective draft the health organizations will not be disrupted and disabled. We all know that the need is very great, and we are willing to see good men go out of our health organizations in order to meet the emergency that faces us. We are willing to make sacrifices, but there is a limit beyond which we can not go. If that limit is trespassed, we will have to fill our ranks with second and third rate men, and I know nothing more deadly to health organizations than mediocrity. We must hold the gains that we have made while making these sacrifices for the nation's good.

The last thought that I want to bring to your attention is the problem of the rejectees. The latest figures tell us that 40 per cent of those who have so far been examined under the Selective Service Act have been rejected on account of physical or mental unfitness.

There are 16,316,998 men between the ages of 21 and 35. That is a goodly number. If 40 per cent of these are unfit for military service, wholly or in part, it will mean that about six and a half million men in this age group have some disability. These disabilities have not been tabulated in order, but they are chiefly bad teeth, caries, tonsils, hernia, mental diseases of various sorts, venereal diseases, of course, and other conditions, many of which are curable, many of which are preventable.

This situation is almost more frightening than war itself. Some six million or more of the flower of our male citizenry are physically unfit for military service. According to the latest figures that have come to my attention, approximately 5,000,000 have been classified in the Selective Service Act, and more than 600,000 have been examined. The selective service boards are classifying 20 per cent of those examined in Class Four, which means that they are totally disqualified for military service; 12 per cent in Class B, fit for limited military service only; and 68 per cent in Class A, qualified for general military service. When we add 13 per cent who are physically, mentally, morally or otherwise unfit, we have 40 per cent disqualified, leaving only 60 per cent available. This is a serious problem that confronts us. An enormous number out of our 130,000,000 population have been rejected for military service. We cannot simply reject them and throw them on the scrap heap. Many of them can and should be rehabilitated. The problem is to find the machinery by which we may salvage these individuals so as to make them physically fit, not for shooting muskets or flying planes, but fit to be whole citizens to do their work —whether in peace or in war. Many of them who have hernias may be stitched up; tonsils can be taken out; mental processes may be adjusted; teeth can be looked after. This rehabilitation can be done, whether it is done for the purpose of entering them into the ranks or not.

Some three different methods for doing this have been proposed. We have found the problem, but I am not sure that we have found the correct way in which it can be solved.

One suggestion is to appeal to the patriotism of these young men. Ask them to go to a doctor or dentist before they go to the selective service board and find out whether they have defects which can be corrected. If they have, ask them to have these things corrected, so that they will be ready to serve when they come to the board. That is an ideal way of doing it, but when I hear stories of men, who, in order to evade the draft, get venereal disease, which they think is not much worse than an ordinary cold, I am not sure that it would be effective. However,

the voluntary method is one possible approach to the subject.

The second way of accomplishing this is for the army to do it. When a man is found to have one of these remediable conditions, he would not be sent back to civilian life simply rejected. He would be admitted to the army and the condition corrected. The army would not like a job of that magnitude. They have problems and difficulties of their own. Perhaps it is too much to expect a military establishment to undertake such a program.

The third course appears at the present time to be the most feasible—namely, to have some agency organized in the civilian population to take charge of these men and rehabilitate them, whether they go back to military service or serve in civilian life. Defense industries are of equal importance to the armed forces.

We can be very much heartened by the thought that whether we meet this problem correctly or not—and of course it is of such magnitude that we will probably blunder—, much reconstructive work can be done. Whether or not this war flurry remains only a scare, such a situation quickens interest in public health. It brings home the lesson that many of our citizens are partly or wholly incapacitated, whether for war or peace, and it carries the message of hygiene and sanitation and good health to every individual in our broad country. When that is achieved, it will help to preserve and promote the health of our citizens. Their health is our first line of defense.

Abstract of Discussion

Captain J. Roy Norton (Fort Bragg): Dr. Rosenau gave us figures bearing out the fact that 40 per cent of men in the age group that we feel are the toughest and best in the whole population are not prepared to engage in warfare. The army will not have them if they have a non-effective rating. The public health workers can have a big part in seeing that soldiers are kept in the effective group.

It is just as important to keep civilian health at top peak as it is to keep strictly military forces at top strength. Military forces depend now more than ever on modern implements of warfare, and if the civilian population is not furnishing the things a soldier needs to fight with, our military forces are weakened.

Dr. Rosenau also spoke of the possibility around the camps of venereal disease and insanitation, and that is a tremendous problem. It is something the health department at home will have to look after. Fort Bragg, strictly speaking, is not in North Carolina. It is a Federal reservation and those of us at the Fort have no more authority a half mile outside than we do in South Carolina.

We will have to keep in mind the rehabilitation of the 40 per cent rejected and also of all citizens not in the draft. We can not at this time relax in any way our health activities. They must be enlarged and intensified. That is a very, very important point that Dr. Rosenau brought out.

I dislike the way many military reservations have handled the problem of prostitution. The idea seems to be just to run the prostitutes from Fort Jackson to Fort Bragg and keep them milling back and forth so that they don't get too well acquainted. We have got to do something more fundamental in controlling venereal disease than that.

Dr. Rosenau brought up the matter of accepting men with defects into the army. This could be done, but right now the army has too big a job, and the rehabilitation of these men will have to be carried on by the civilian population. Another factor is that if the army does accept such persons it will cost them a great deal. If they have chronic trouble, the average cost to the Government is $30,000.00

I feel that those who are carrying on the work of health departments in this emergency are doing just as much as the best flyer in the United States Army. Let us keep that in mind.

TUMORS OF THE LARYNX AND HYPOPHARYNX

LOUIS H. CLERF, M. D.

PHILADELPHIA

The presence of a tumor in the larynx or in the hypopharynx—particularly in the latter—is often overlooked until the situation becomes rather critical from the patient's standpoint.

There are many types of tumor in the larynx. You are all familiar with them, and I will not take time to name them all. There are those which are not truly neoplastic, which consist of granulation tissue and are of inflammatory origin. Then there are the benign tumors—the fibromas, and the papillomas.

The papillomas are the tumors commonly found in children, and they recur quite frequently. They are not cancers, but are as great a threat to life as if they were. In time they completely obstruct the passage and ultimately cause asphyxiation.

Certain tumors may undergo changes. It is uncertain whether the papilloma becomes malignant or not. In an adult, a papilloma may recur several times after removal and finally clear up spontaneously. The mere presence of a papilloma in the larynx should not be presumed to be *prima facie* evidence that the patient will ultimately develop carcinoma.

Read before the Section on Ophthalmology and Otolaryngology, Medical Society of the State of North Carolina, Pinehurst, May 20, 1941. Written from stenographic notes.

A chondroma is a cartilaginous tumor and is benign. It can be removed occasionally without sacrificing the larynx.

Then, of course, we have the great group of malignant tumors.

Diagnosis

How do we go about making a diagnosis of tumor of the larynx? It is like making a diagnosis of a lesion elsewhere. We would want a history, if one is available. The important thing is the symptoms, and, of course, the examination of the larynx.

The common symptom of a cord tumor is voice disturbance. Anyone who has some disturbance in his voice should be examined and a diagnosis made by exclusion. In some cases a direct diagnosis can not be made.

A public speaker, who talks a great deal, may first start with a huskiness after he has been speaking for a time; then the condition becomes more noticeable and he clears his throat frequently. Finally, he can not talk more than a few minutes without the huskiness, and as he keeps trying to talk he becomes hoarse. It is not necessary to carry out an extensive investigation to ascertain if he has syphilis or tuberculosis, because so far as the laryngeal lesion is concerned they both usually are ulcerated.

Many of the ulcerated lesions require a diagnosis by exclusion. That can be arrived at only on the basis of the history and physical examination, which includes mirror study of the larynx, and study of the nose, throat, larynx, and chest. The laryngeal lesion may still resemble any of several things. Our clinical pictures do not conform to the textbook pictures. The first carcinoma of the larynx you meet might not conform to the picture I would draw for you, because there are many factors that help to create clinical pictures. It is necessary to be in possession of considerable information in these obscure cases, and it is very important to see the larynx.

Examination of the Larynx

The best way to examine the larynx is with the aid of the laryngeal mirror. There are definite indications for direct laryngoscopy, but it is used chiefly to expose a larynx which cannot be examined by mirror and for biopsy. You do not get as much information by direct laryngoscopy as by mirror laryngoscopy. Secure some tissue or secretion and ascertain if there is a fixed vocal cord. If there is, determine if you can whether it is of inflammatory, fibrotic or paralytic origin.

Mirror laryngoscopy is not too difficult. I think all medical students should be taught to do it. Interns should be taught to do it, not with the idea of having them take over the treatment of laryngeal disease, but so that they will not make a routine diagnosis of chronic hoarseness and treat a patient for that.

In the normal larynx, the vocal cords meet in the midline. When there is any disturbance with the larynx, the ordinary function of the vocal cords is disturbed, and there may be dysphonia.

Carcinoma of the Larynx

The one condition that must be recognized promptly is carcinoma of the larynx. I have examined a number of patients who have been hoarse for years, and found extensive carcinoma of the larynx. Quite often the case is inoperable, and there has been a metastasis to the lymph nodes of the neck. Prompt recognition in these cases is very important.

The majority of the neoplastic lesions in the larynx occur in the anterior portion.

In epiglottic lesions hoarseness is a late symptom, if it is a symptom at all, because the lesion does not involve the vocal cords. Voice disturbance results commonly from some interference with the activity of the vocal cords. Patients with such lesions complain of some sticking sensation or some obstruction in their throats. Secondary syphilis usually involves the greater part of the larynx, and if it reaches the tertiary stage, it may involve the vocal cord. These lesions will not cause hoarseness or voice disturbance until there is some interference with the vocal cords.

It is amazing how late these diagnoses are made. I recently went over a group of 291 cases of cancer of the larynx that I had treated surgically to ascertain the site of the lesion. Practically 250 out of 300 cases of cancer were vocal cord tumors. The majority of laryngeal lesions other than inflammatory processes occur in the anterior half of the larynx.

A small lesion of the edge of a vocal cord will produce voice disturbances, irrespective of its position.

Treatment: Surgical treatment for cancer of the larynx gives the best results which

can be secured by treatment of cancer anywhere in the body, with the exception of skin cancer. A lesion of the vocal cord can be removed without sacrificing the entire larynx. Occasionally there is a metastasis to the lymph nodes. Sometimes a subglottic lesion extends along the course of the cord for a considerable distance and manifests itself just beyond the edge of the cord. Those lesions are commonly extensive. Hoarseness is a late symptom.

Cricoidal carcinomas are rare, and about all my patients died. I do not operate on many of them any more.

Pharyngeal lesions, which occur on the posterior wall of the pharynx, are not common, but are difficult to combat. They do not produce symptoms early, and they are not amenable to irradiation therapy.

Irradiation therapy was given to one patient, and the carcinoma disappeared. About eleven months later the patient came back with an ulcerated lesion. Further irradiation therapy was attempted, but one treatment caused such a reaction that it was not used again. The side of the neck was opened from practically the angle of the jaw down well below the cricoid cartilage, and the posterior wall of the pharynx was removed. The patient is still alive. This type of patient can be helped a great deal by surgical treatment because it is not necessary to sacrifice the larynx. When metastasis to the cervical lymph nodes has occurred, that presents an entirely different problem. I emphasize the importance of examining the larynx early. That is imperative in all patients who have symptoms referable to the larynx.

Other Conditions in the Larynx

Paralysis of the larynx sometimes follows thyroidectomy. In examining the larynx, you should always note the motility to rule out paralysis. Early cancer of the larynx can be removed and one can expect 80 per cent non-recurrence in five years. Tuberculosis is a rather common laryngeal lesion and always has to be thought of in the diagnosis of hoarseness.

Summary

By the use of mirror laryngoscopy you can recognize all of the lesions in the larynx and hypopharynx which I have discussed. Mirror laryngoscopy is not difficult. Examine the larynx, exhaust all the possibilities, and finally arrive at a diagnosis by exclusion.

Abstract of Discussion

Question: What strength cocaine do you use on your patients when administering an anesthetic?

Dr. Clerf: I used to use 2 per cent cocaine. I am now using 1 per cent pontocaine. I use an atomizer and blow one or two bulbs into the laryngeal cavity and have the patient hold it in the throat a few seconds and then expectorate. I repeat that. Then I get the camera ready, which takes two or three minutes. By that time the throat is anesthetized. Occasionally you will have to use a little more—only occasionally.

Of course, we cannot get a photograph of everybody's larynx. We have to use a large mirror. Some throats are so situated that we can only look around a corner. You must remember that nothing works instantaneously in the field of anesthesia. You have to give it time.

APPENDICITIS IN CHILDREN

T. M. WATSON, M. D.

GREENVILLE

According to Dr. Donnell Cobb's paper given before our State Society last May[1], appendicitis killed half as many people last year as did automobile accidents.

Early appendicitis is difficult to diagnose and easy to cure. Late appendicitis is easy to diagnose, and so hard to cure that the above figures remain true.

Appendicitis is rare in babies under 1 year of age. The anatomy may have something to do with this. The lumen of the appendix in the baby, where it joins the cecum, is funnel shaped and favors drainage. Furthermore, a fairly large percentage of babies these days get sterile or partially sterile feedings, and the intestinal flora is made up of Democratic organisms who want to get enough for themselves but do not feel that they must severely damage or kill the host in getting it. Further, constipation with accompanying fecal concretions is less common in the infant than in the older child. In the infant, the membrane at the lumen of the appendix is less likely to have become scarred; parasites are rarely present in the intestinal tracts of babies. After the period of infancy has passed, and the child has been turned loose to eat everything from dirt down to spinach, Republican bacteria become more numerous, and appendicitis becomes

Read before the First General Session, Medical Society of the State of North Carolina, Pinehurst, May 20, 1941.

1. Cobb, D. B.: Appendicitis: The Two P's and the Highest Mortality in the World, North Carolina M. J. 1:472 (September) 1940.

more common. These organisms get into the lumen of the appendix and try to get all they can, even though considerable damage to the host results. Finally, following upper respiratory infections, a fifth column of Nazi germs, such as streptococci and pneumococci, make their way into the partially obstructed lumen and start their blitzkrieg on the wall of the appendix, the circulation of which is already impaired by pressure from the impacted contents. Unless surgical treatment is instituted immediately general peritonitis with its bad prognosis ensues.

In the child from 3 to 10 years of age the lumen is small in proportion to the canal which it has to drain. Foreign bodies and other hard intestinal contents may scar the appendiceal mucosa and allow the pathogenic bacteria to enter. These set up inflammation with resulting edema, partial or total obstruction to drainage, and interference with blood supply. This leads to pus and demands surgical removal.

In the adult, when appendiceal inflammation begins, the omentum comes to the rescue and wraps itself around the inflamed area, so that if leakage does occur, a localized abscess rather than generalized peritonitis frequently results. In the child, however, the omentum is short and cannot function in walling off the infected area; therefore when the appendix ruptures, general peritonitis is the rule.

For the sake of brevity and also for lack of knowledge, I say very little about the pathology of appendicitis; the important thing to us is early diagnosis and prompt treatment.

Symptoms

In the young child the history given by the mother is often misleading. I have even had mothers try to lead me away from the abdomen, because of their dread of surgery. The small child cannot tell the mother nor the doctor where the pain is. Vomiting is a fairly constant symptom, but we must not wait for it. All of us have seen patients with acute appendicitis who had no sign of nausea. Abdominal pain is almost always present. This may be anywhere in the abdomen. At the beginning of the attack, it is usually in the epigastrium. This is also true of tenderness. After two to four hours it tends to localize in the right side of the abdomen about the level of the navel or near McBurney's point. Soon after this the muscle begins to get rigid. Where the appendix is high, the tenderness and rigidity may be just below the liver and may never reach as far down as McBurney's point. In many cases there is never any muscle spasm. Constipation is the rule, but diarrhea does not rule out appendicitis. Last May we had a child 5 years old who had all the classical signs of appendicitis except constipation. She had had seven watery stools in twelve hours before coming to the hospital. At operation we found an acutely inflamed appendix bulging tightly at the tip, well on the way to rupture. Fever tells very little. Usually it varies from 99 F. to 101 F., but with dangerous appendiceal inflammation, the fever may be normal. We also have records of two cases with temperatures of 104 F. and above, in which appendicitis was the sole cause of the illness.

Even the complaint of pain is not always present. I remember a boy of 6 years who was brought to me on account of Vincent's infection of the gums. He had no fever, had not vomited, and complained of no abdominal pain. The mother stated that he had slept comfortably the night before. On examination the right rectus was very rigid, and tenderness at McBurney's point was acute. At operation two hours later an acutely inflamed appendix was removed. This case illustrates the importance of abdominal examination in every case regardless of the complaint.

Before any abdominal examination is made in a child, the bladder should be emptied, as a full bladder will make the muscle feel spastic. The examination must be gentle in order not to frighten the child. A good rule is to examine the abdomen of each patient before anything else is attempted, whether the complaint is earache or diarrhea, since any part of the body except the abdomen may be fairly satisfactorily examined with the patient resisting. The examination should begin with gentle palpation, starting in the lower left quadrant and proceeding up to the costal margin, across the epigastrium, and then from the right costal margin down toward the brim of the pelvis. In very early appendicitis tenderness and often rigidity will be found in the epigastrium or just below the liver. At this stage it is unusual for the patient to show any evidence of marked discomfort when fairly firm pressure is made at McBurney's point.

When the tip of the appendix is down near

the brim of the pelvis, the signs may suggest acute inflammation of the bladder.

In a few spoiled and frightened children, it may take an hour or more of patient effort before a satisfactory examination of the abdomen is accomplished. In the majority of cases it can be done more quickly and satisfactorily if the parents leave the room and shut the door. In a few cases it has been necessary to give a few whiffs of ether to control the resistance. If there is definite tenderness over any point where the appendix might lie, operation should not be postponed on account of the absence of muscle spasm, because this symptom may not appear until after leakage has begun.

If laboratory findings agree with physical findings, it is consoling. If physical findings point to appendicitis and the blood count is normal, the safest thing to do is to forget the blood count and operate. Postponing surgery because the blood count was not elevated has proved disastrous in too many cases. In the classical case of appendicitis the leukocyte count is between 10,000 and 15,000, but a count of 6,000 does not rule it out. In our experience, the differential gives more information than does the total count. The polymorphonuclear count is usually definitely elevated in appendicitis, even though the total is low. This helps to rule out typhoid fever, early measles, and other conditions which carry low total and high mononuclear counts. If the total and polymorphonuclear counts are exceptionally high—around 20,000 and 90 per cent respectively—pneumonia and pyelitis must be ruled out. This kind of a count does not eliminate appendicitis, however. We have had four cases in the past five years where appendicitis was the sole cause of such a count. The urine should be examined in all cases, since pyelitis and cystitis may give signs closely resembling those found in appendicitis. The onset in acute urinary tract infections is usually abrupt, with chill and high fever. Tenderness and muscle spasm are rare even in severe urinary tract infections. Even if the urine shows large amounts of pus, this does not rule out appendicitis. If physical signs strongly indicate appendicitis, the safest plan is to operate.

Pleurisy and early lobar pneumonia may be hard to differentiate from appendicitis. Physical and, if necessary, x-ray examinations of the chest, together with the blood findings, can determine fairly definitely whether or not these conditions are present. In lobar pneumonia the white cell count is almost always between 25,000 and 40,000, with 85 to 90 per cent polymorphonuclears.

The onset of upper respiratory infections sometimes causes nausea and some tenderness in the epigastrium, but this does not tend to advance down the abdomen nor to localize.

Intussusception is not likely to be confused with appendicitis, since its onset is violent, with extreme shock, vomiting, and palpable tumor. Very soon after the onset the baby passes blood from the bowel.

Typhoid fever is rare now but has to be considered. It can be differentiated by the history of the onset, the leukopenia, and high mononuclear counts. Of course typhoid fever can be definitely diagnosed by blood and stool cultures, but since these take considerable time, the physical examination and blood counts are all that we have to use in differentiating it from appendicitis.

Mesenteric adenitis cannot be differentiated definitely from appendicitis, but since most of the adenitis is secondary to appendicitis, operation is not a serious mistake. When the appendix is removed, the adenitis subsides.

Early peritonitis due to pneumococcus and streptococcus must be remembered. Here, the abdominal signs are general, with moderate tenderness all over the abdomen, muscle spasm, and distention. The patient is usually profoundly toxemic. The temperature is high, and the pulse rate exceedingly high. Still, in many cases, it is impossible to differentiate these types of peritonitis from that following a rupture of the appendix. Many authors think it is criminal to put in drains in these cases, but drainage, plus full doses of sulfathiazole, has proven highly satisfactory. It must be remembered that in children appendicitis is by far the most frequent inflammatory condition in the abdomen. In babies under one year it occurs infrequently, but it does occur. Our youngest patient to have gangrenous appendicitis was 24 hours old. (I might explain that the blood supply was cut off because the appendix was caught in a strangulated inguinal hernia.)

The prognosis in early cases is excellent if the appendix is removed before any leakage occurs. Dr. A. H. Montgomery states: "The younger the child, the poorer the out-

look." I disagree with this. If proper preoperative and postoperative care is given, including fluids, salts, glucose, and, when needed, blood, these patients get along better than those more aged. Where peritonitis has already developed the prognosis is not so good, but with plenty of supportive treatment and large doses of sulfathiazole most of them get well. The great majority of the young patients who have been desperately ill with appendicitis or who have died of it gave histories of purgation with calomel or castor oil or both before the physician was consulted. It is hard to understand why a parent who would not take a dose of castor oil "for a share in the railroad" will force it down the throat of a helpless child.

We all know that certain cases of appendicitis will subside without operation, but none of us know which will recover and which will rupture. We also know that most of those who recover will eventually have it again. When a doctor satisfies himself that a patient has appendicitis and treats him conservatively, he is responsible for the outcome. Occasionally the parent refuses to allow the operation when it is advised. My plan has been and will be to retire from the case when operation is refused. In my humble opinion there is no excuse for conservatism in the treatment of appendicitis. Every doctor, in this enlightened age, knows that an ice bag on the abdominal wall can have no beneficial effect on the course of the disease. It only brings some relief of the pain, temporarily decreases muscle spasm, and masks the symptoms generally.

Once the diagnosis of the disease has been fairly well established the appendix should be removed immediately. One of my friends wrote me some months ago, "I think the greatest disgrace that can come to a hospital is to operate for appendicitis and find the appendix not inflamed." I would much prefer operating on 2 or 3 per cent uninflamed appendixes than to have 2 or 3 per cent of the cases terminate in "procrastination peritonitis".

In cases where the appendix has not ruptured, with light anesthesia, gentle handling of the bowel, and preoperative and postoperative parenteral fluids, when indicated, the morbidity is very slight and the mortality nil.

A PRACTICAL PLAN FOR THE USE OF VITAMIN K IN THE PREVENTION OF HEMORRHAGE IN THE NEWLY-BORN INFANT

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CHAPEL HILL

During the past few years tremendous advances have been made in our knowledge concerning the prevention and treatment of hemorrhagic conditions in the newly-born infant. Since the general practitioner delivers a large proportion of the infants in North Carolina, it seems wise to review this work and to suggest a practical plan to reduce the incidence of hemorrhage in the first few days of life.

Although the incidence of true hemorrhagic disease of the newly-born is not well established, it is becoming more apparent that most of the hemorrhagic states in the neonatal period are closely allied and will be influenced by the same treatment. Hemorrhagic disease of the newly-born has been recognized for many years as a clinical entity, characterized by bleeding in an otherwise nqrmal infant during the first few days of life. According to different observers, the incidence varies from 1.0 to 0.1 per cent of live births depending on the criteria used for diagnosis. The bleeding site is usually stated as being most commonly the gastrointestinal tract, with the umbilical cord, the skin, the nasal mucous membrane, and the vagina following in that order. The relation of intracranial hemorrhage to hemorrhagic disease will be considered in a moment. The bleeding may make its appearance at any time during the neonatal period, but is most commonly seen on the second to the fourth days of life.

This clinical picture has become much more understandable in recent years since Smith and his co-workers[1] were able to show that hemorrhagic disease is associated

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From the School of Public Health of the University of North Carolina and the Department of Pediatrics, Duke University School of Medicine and Duke Hospital.

2-methyl-1,4-naphthoquinone was supplied for this study by Eli Lilly & Co.

2-methyl-1,4-naphthoquinone-3-sodium sulfonate was supplied by Abbott Laboratories.

The author wishes to express his appreciation to Dr. D. B. Wyvell and Dr. W. S. Branning who have done so much of the laboratory work in the Duke series.

with a marked fall in the blood prothrombin level. They were also able to show that this fall is an exaggeration of a phenomenon that appears to take place in the blood of almost all newly-born infants. This work has been confirmed by several other workers, although there is not a complete agreement as to the relative importance of the fall in the prothrombin level itself and the change in its activity. Figure 1 illustrates the characteristic curve produced by the prothrombin clotting times of a series of newly-born infants. We obtained these curves by a micro-prothrombin clotting technique on ten apparently normal newly-born infants at the Strong Memorial Hospital in Rochester, New York[2]. It will be seen that although some infants showed an elevated prothrombin time shortly after birth, the majority were near the normal adult level of nineteen to twenty seconds. There is evident a rapid rise in the clotting times, reaching a maximum during the second and third days, indicating a falling prothrombin level in the blood. After reaching a peak, the clotting times become shorter and approach the normal value about the sixth day of life. This same type of curve has been shown to be almost constant by numerous workers. We have obtained approximately the same sort of curve in a more extensive study being carried out at the present time with Dr. Wyvell and Dr. Branning at Duke Hospital.

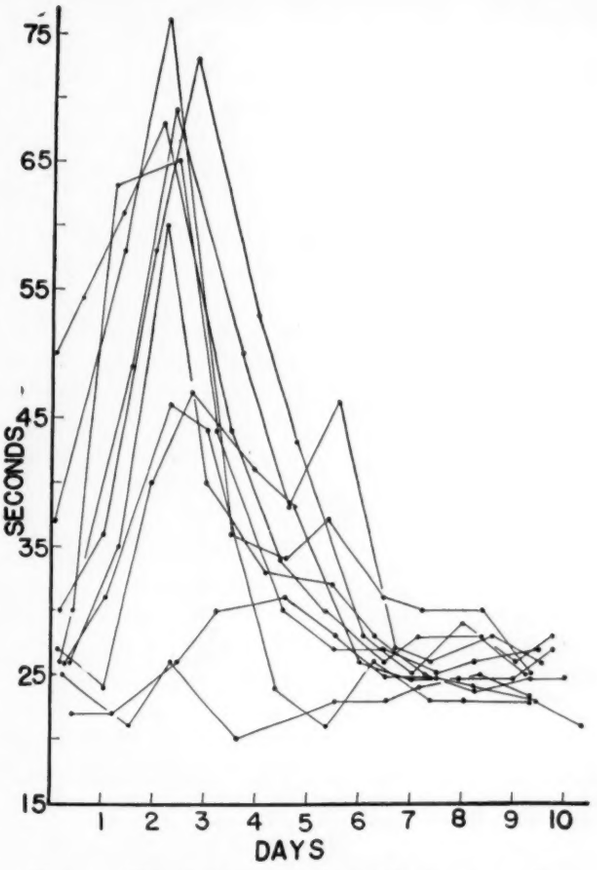

Fig. 1. Direct micro-prothrombin times on ten normal newly-born infants. Normal adult control was 19-20 seconds. (Reproduced from the Journal of Pediatrics[2]).

It will be seen that this peak coincides very well with the known incidence of hemorrhagic disease, and that there is a spontaneous recovery of the prothrombin clotting power of the blood just as there is frequently spontaneous recovery in mild hemorrhagic disease. In the bleeding infants which we have been able to follow, we have seen no case with a micro-prothrombin time of under eighty-five seconds, and the majority have shown micro-prothrombin times ranging from three minutes to over one hour.

Various theories have been advanced for this phenomenon, but it is not completely explained. It is known that the prothrombin level in the blood cannot be maintained without the absorption and utilization of an adequate supply of vitamin K. In the adult, hypoprothrombinemia rarely occurs from a deficiency of vitamin K in the diet, but does occur from liver damage, and characteristically occurs in obstructive jaundice due to the lack of absorption of this fat-soluble vitamin from the intestine in the absence of bile salts. Although the newly-born's prothrombin clotting power is usually adequate at birth, it falls rapidly but recovers in a few days, presumably due to the action of the vitamin K absorbed from the gastro-intestinal tract where it has been synthesized by the intestinal bacteria. Since we occasionally see an infant with a very low prothrombin level who shows no evidence of bleeding, it is our impression that there must be some trauma during this period, however slight, to initiate bleeding.

In the past the occurrence of intracranial hemorrhage has not usually been considered to be a manifestation of hemorrhagic disease unless accompanied by bleeding from some other site, and not accompanied by trauma. This opinion, however, is no longer felt to be valid by the majority of investigators in

1. Brinkhous, K. M., Smith, H. P., and Warner, E. D.: Plasma Prothrombin Levels in Normal Infancy and in Hemorrhagic Disease of the Newborn, Am. J. Med. Sc. 193:475-480 (April) 1937.
2. Lawson, Robert B.: Treatment of Hypoprothrombinemia (Hemorrhagic Disease) of the Newborn Infant, J. Ped. 18:224-234 (February) 1941.

this field. We can now make a distinction between the massive intracranial hemorrhage associated with the tearing of a large blood vessel during a difficult delivery and the slow oozing type of hemorrhage in which an injury to a large vessel cannot be demonstrated.

Obviously the massive hemorrhages may occur as the result of birth trauma without a lowering of the infant's prothrombin activity, but the hemorrhage itself often causes a secondary loss of prothrombin so that bleeding from other sites may occur as a later manifestation. The oozing type of hemorrhage, on the other hand, does seem to be related to a primary lowering of blood prothrombin and the bleeding will usually stop with the administration of vitamin K. In the course of our investigation at Duke Hospital we have tested the prothrombin clotting activity of 191 infants. Of these 191 infants, 136 were born of unprotected mothers. Seven of the 136 infants showed evidence of intracranial hemorrhage, and four of these died. Four of the seven showed a very low prothrombin value, and of the other three, two had already been treated with vitamin K before the determination was made so that they also might have shown a low prothrombin level had they not been treated. This small series confirms our impression that intracranial hemorrhage is often associated with a low blood prothrombin, whether or not trauma is present in addition.

Since the synthesis of vitamin K, various substances with closely related chemical structures have been described which can be synthesized on a commercial scale very cheaply. The most commonly used substance is 2-methyl-1,4-naphthoquinone (Lilly's Proklot, Squibb's Thyloquinone, Abbott's Kayquinone, and Lederle's Quino-thrombin), which is oil soluble and is used in tablets, capsules, or oil solutions for oral administration, and in oil solution for intramuscular administration. Several related substances with increased water solubility have also been used and are now appearing commercially. Of these the most widely used are 2-methyl-1,4-naphthohydroquinone-3-sodium sulfonate (Abbott's Hykinone) and 2-methyl-4-amino-1-naphthol hydrochloride (Parke Davis's Synkamin).

Several observers have reported on the effect of these various substances in the prevention and treatment of the hemorrhagic states of the newly-born infant. The development of micro-techniques for testing the prothrombin activity of the infant's blood has made these studies very satisfactory, for one can not only observe the clinical effect but can also judge, by the effect shown on the normally occurring hypoprothrombinemia, the effectiveness of any drug or plan of treatment. In attempting to prevent this fall in prothrombin activity one can give the pregnant mother a large amount of vitamin K before delivery or one can give the infant extra vitamin K immediately after birth.

The former method was first reported in 1939 by Hellman, Shettles, and Delfs[3, 4], who were able to prevent a fall in the prothrombin level of infants by giving mothers natural vitamin K during the last month of pregnancy. Many other workers have done the same thing with very good results. 2-methyl-1,4-naphthoquinone has been given in tablet or capsule form in small doses over the last month of pregnancy, and larger doses have been given in oil by mouth after labor has started. Figure 2 shows the effect observed in a small series of cases in which 2-4 mg. of this substance were given at least six hours before delivery. It will be noted that although the normal level is not maintained consistently there is no marked elevation in the prothrombin times, especially where 4 mg. of the vitamin were given. In a larger series from Duke Hospital we have found essentially this same effect. Bohlender[5] and his associates have just reported that they were able to prevent the usual lowering of the prothrombin activity by giving the mother an intravenous injection of 1 mg. of the water soluble 2-methyl-4-amino-1-naphthol hydrocloride as short a time as five minutes before delivery. Of course the administration so late in labor could not affect the infant's prothrombin level at birth, but it appears that some of the vitamin K passes directly into the infant's blood stream and then can act on the infant's liver to increase the prothrombin level in the course

3. Hellman, L. M. and Shettles, L. B.: Factors Influencing Plasma Prothrombin in the Newborn Infant—I: Prematurity and Vitamin K, Bull. Johns Hopkins Hosp. 65:138-141 (July) 1939.

4. Shettles, L. B., Delfs, E., and Hellman, L. M.: Factors Influencing Plasma Prothrombin in the Newborn Infant—II: Antepartum and Neonatal Ingestion of Vitamin K Concentrate, Bull. Johns Hopkins Hosp. 65:419-426 (November) 1939.

5. Bohlender, G. P., Rosenbaum, W. M., and Sage, E. C.: Antepartum Use of Vitamin K in the Prevention of *Prothrombin Deficiency of the Newborn*, J. A. M. A. 116:1763-1766 (April 19) 1941.

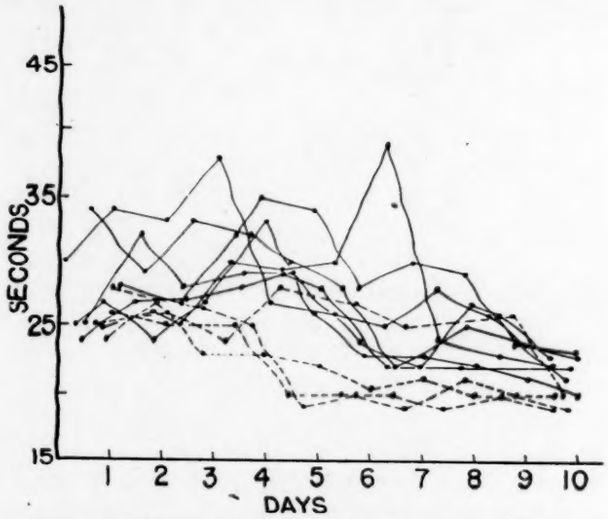

Fig. 2. Direct micro-prothrombin times of infants whose mothers received 2-methyl-1,4-naphthoquinone during labor. Solid lines—mothers received 2 mg. Broken lines—mothers received 4 mg. Normal adult control was 19-20 seconds. (Reproduced from the Journal of Pediatrics[2]).

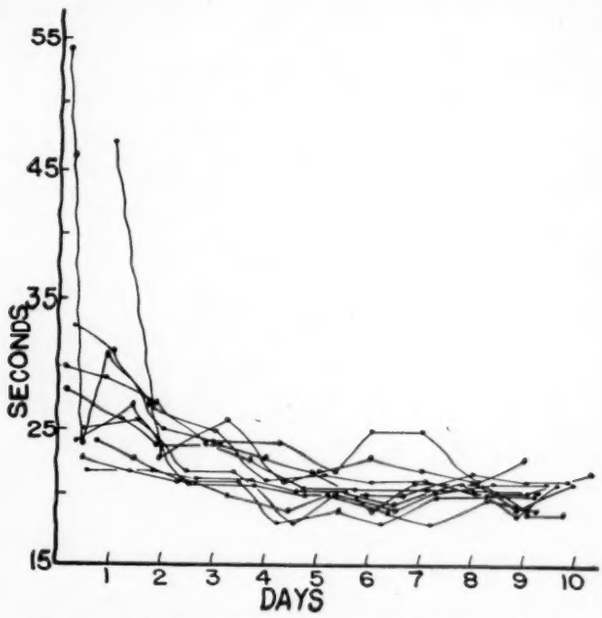

Fig. 3. Direct micro-prothrombin times of ten newly born infants who received 1 mg. of 2-methyl-1,4-naphthoquinone intramuscularly at the time of the first determination. (Reproduced from the Journal of Pediatrics[2]).

of the next few hours. In the Duke series 55 mothers were treated with adequate oral doses of this substance before delivery, and no infant showed laboratory or clinical evidence of intracranial hemorrhage or hemorrhagic disease.

If the mother has not been treated one can observe the effect on the normal prothrombin curve of the administration of vitamin K-active substances to the infant. Figure 3 shows the effect of one intramuscular injection of 1 mg. of 2-methyl-1,4-naphthoquinone to the infant during the first few hours of life. It will be seen that there is a dramatic fall in the prothrombin times to the normal level. Many other workers have reported similar results[6], and we have found essentially the same results in the Duke Hospital series in which the infants were given 3.2 mg. of the water soluble 2-methyl-1,4-naphthohydroquinone-3-sodium sulfonate (Abbott's Hykinone) by mouth. The use of a water soluble preparation for intramuscular injection is said to be equally effective. However, in our series, using another preparation, we have had four infants out of fifteen who failed to show a satisfactory response, so that more work will have to be done before this method can be evaluated.

6. Waddell, W. W., Jr., and Guerry, D. III: The Role of Vitamin K in the Etiology, Prevention, and Treatment of Hemorrhage in the Newborn Infant, J. Ped. 15:802-811 (December) 1939.

Injections of whole blood intramuscularly to prevent hemorrhagic disease have been used extensively for many years. There was some clinical evidence that this was effective, but a critical analysis of the reports leads us to believe that these cases were mild ones in which recovery would probably have taken place spontaneously. There is added laboratory proof, shown in Figure 4, indicating that intramuscular blood has little effect. Twenty cubic centimeters of blood from the infant's mother were injected into the infant's buttocks at the time the first prothrombin level was determined. It will be seen that there was little if any effect, and the prothrombin time, indicated by the broken line, became so elevated that we felt it necessary to administer vitamin K to this infant, which immediately brought the prothrombin time back to normal. We have seen another infant who developed clinical hemorrhagic disease on the twelfth day of life with an associated marked fall in the prothrombin level despite three blood transfusions during the previous week[2].

Since we became interested in this problem we have seen sixteen infants with obvious clinical signs of hemorrhagic disease or intracranial hemorrhage associated with low prothrombin activity. We have seen potential hemorrhagic disease—that is, marked hypoprothrombinemia without evident bleeding—

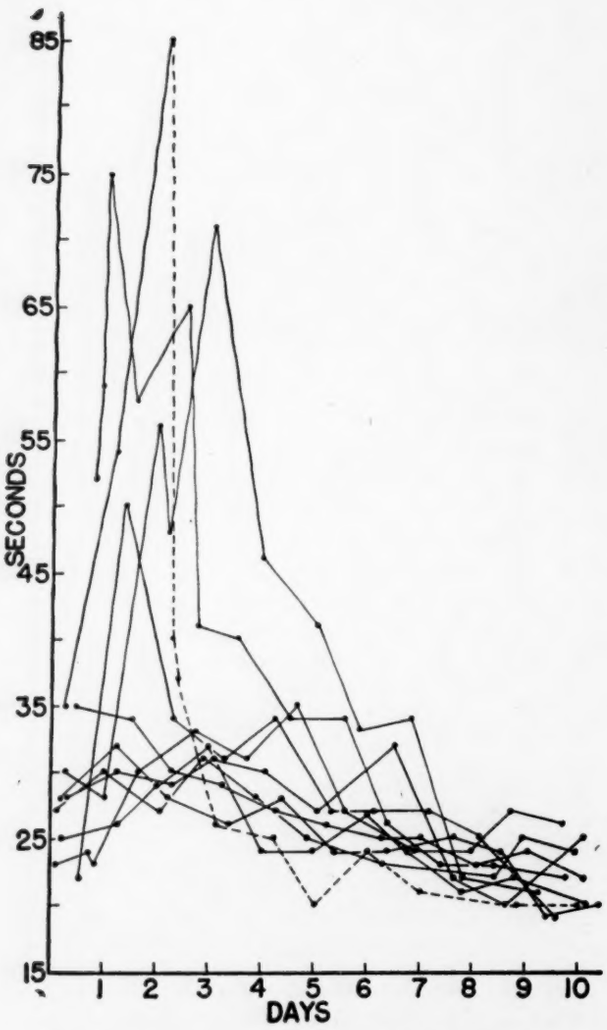

Fig. 4. Direct micro-prothrombin times on ten newly-born infants given 20 cc. of whole blood intramuscularly at the time of the first determination. Normal adult control was 19-20 seconds. Broken line represents course of infant after 1 mg. of 2-methyl-1,4-naphthoquinone was given. (Reproduced from the Journal of Pediatrics[2]).

in over twenty infants. From these cases and from the cases reported from other clinics we can say that the use of vitamin K in one of its forms is by far the most effective treatment for this condition. Blood transfusion will add prothrombin to the infant's blood stream and may cause a temporary remission in the bleeding or may even carry over a mild case until spontaneous recovery occurs. In a serious case, however, the effect of the added prothrombin from the transfused blood is only temporary and further bleeding is to be expected.

The effect of vitamin K in these bleeding infants is very dramatic. One milligram of 2-methyl-1,4-naphthoquinone in oil by mouth will begin to affect the prothrombin time as early as two hours after administration. The intramuscular injection of this substance in oil is more delayed in its action but is equally effective over a period of six to ten hours. Bohlender[5] states that the intravenous administration of a water soluble preparation (Synkamin) has been equally effective in less than four hours. Adequate studies of the intramuscular administration of the water soluble substances have not been reported.

Vitamin K preparations are now available commercially and are quite inexpensive so that they can be used for all patients. We suggest the following plan for the prevention and treatment of hypoprothrobinemia, hemorrhagic disease, and intracranial hemorrhage not associated with the tearing of a large blood vessel:

1) Since some infants are born with a markedly prolonged prothrombin time, and since intracranial hemorrhage is usually initiated during delivery, it is desirable to protect the infant *in utero* by treating the mother. Also, since one cannot estimate the time of onset or length of labor to any degree of accuracy, one should start treating the mother a month before the estimated date of confinement. We suggest, therefore, that every mother be given a daily dose of 1 mg. of 2-methyl-1,4-naphthoquinone menadione, in capsules or tablets beginning one month before the estimated date of confinement and continuing up to delivery.

2) If the mother is not seen until labor has begun, she should be given an immediate intravenous injection of 4 mg. of a water soluble preparation, or, if this is not available, 6 mg. of 2-methyl-1,4-naphthoquinone in oil. Tablets or capsules should not be used after labor has begun, since there may be some delay in absorption due to the time necessary for the liberation of the contents.

3) In order to make doubly sure of protection, since some mothers may not absorb the vitamin satisfactorily, every infant, and especially any infant delivered of an unprotected mother, should be given one dose of 1 mg. of a vitamin K-active substance orally, intramuscularly, or intravenously as soon as possible after delivery. One should use 2 mg. of the water soluble prepara-

tions, since they are not as potent as 2-methyl-1,4-naphthoquinone.

4) Every infant seen during the neonatal period with bleeding from any source should be given immediately 1 mg. of a vitamin K-active substance intravenously, orally, or intramuscularly. It is probably advisable to repeat this dosage about twelve hours later to afford added protection. Blood transfusion is advisable if the infant has lost sufficient blood to cause an anemia.

We feel that if such a plan is adopted by each practitioner, there will be a considerable decrease in the incidence of typical hemorrhagic disease and also a marked decrease in the oozing type of intracranial hemorrhage, which not only causes many deaths each year, but also leaves many infants with cerebral defect.

Abstract of Discussion

Dr. Northington (Charlotte): How many deaths from hemorrhagic disease have there been in North Carolina in the past year? Unless there has been a very considerable loss of life from this cause I would think that a blanket preventive measure of this kind would be at least open to question.

Let us look at both sides of this thing and consider the matter of proportion. Someone has said "Ability to consider things proportionately is the truest test of intellectuality."

Dr. Lawson: The percentage of children who die under one month of age, is the one factor in our death rates which has not been changed. Some 50 per cent die from prematurity, some 10 per cent from birth injury, and about 5 per cent from other related causes. Hemorrhagic diseases kill many of these; it is hard to state the exact figure.

Dr. Northington: How many per thousand?

Dr. Lawson: It has been estimated .1 to 1 per cent, depending on various statistics. However, it is not only hemorrhagic disease, as most of you men think of it, which we feel we are preventing by this routine use of vitamin K, but intracranial hemorrhage. Intracranial hemorrhage at birth does account for some 300 deaths a year in North Carolina. We feel that a large proportion of these cases were prevented in this series at Duke Hospital. Out of 130 unprotected mothers, 7 babies had intracranial hemorrhage, and four died. That is about a 3 per cent mortality. We believe these babies would have lived if they had been protected with vitamin K. We are not absolutely sure of it, doctor, but we think that is true.

As far as the administration of vitamin K to the mothers is concerned, we do not believe it should be done by injection. The most desirable procedure is to give it by tablet or capsule, one tablet a day for one month before delivery. Only in case that has not been done do we advise one injection of vitamin K intravenously.

As for reactions associated with it, several thousand mothers and babies have been treated up to this point with vitamin K active drugs. So far no one has found any ill effects in either the mother or baby.

I believe I can quote Dr. Waddell of the University of Virginia, who in a long series of cases in which the mothers were treated prophylactically, had no case of hemorrhagic disease, and but one infant who died of a birth injury in something like 700 consecutive deliveries. That one baby had a positive tear across the tentorium.

We believe we will definitely cut down our infant mortality statistics, which are high in the neonatal period.

DELAYED RELAXATION OF TENDON REFLEXES AS AN AID IN THE DIAGNOSIS OF MYXEDEMA

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and

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DURHAM

The delayed relaxation of tendon reflexes in myxedema is an aid in diagnosis which, though long familiar to clinicians, often is overlooked. Chaney[1] graphically recorded the relaxation time in a series of patients and noted normal relaxation in patients with low basal metabolic rates in conditions not definitely related to the thyroid, such as pituitary tumor and anorexia nervosa. We have confirmed his work and have studied the effect of edema on tendon reflexes in cases with normal and lowered basal metabolic rates.

Method

An expansile, soft gum rubber tube, connected to a sensitive tambour by ordinary rubber tubing, was strapped lightly around the belly of the muscle to be tested. Tracings were made on smoked paper attached to a rotating drum, and intervals of time were recorded simultaneously by a Jaquet timer (fig. 1). The tendon was struck with an ordinary rubber reflex hammer. Since the biceps tendon is one frequently tested clinically, and since the changes are readily felt here by the finger overlying the tendon, we chose this muscle. Tracings on the quadriceps muscle (patellar tendon) and gastroc-

From the Departments of Medicine and Physiology, Duke University School of Medicine, Durham. Submitted for publication May 30, 1941.

1. Chaney, William C.: Tendon Reflexes in Myxedema: a Valuable Aid in Diagnosis, J. A. M. A. 82:2013-2016, 1924.

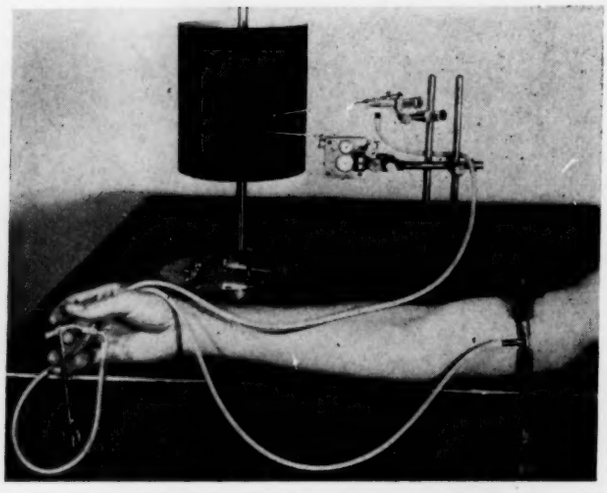

Fig. 1. Apparatus used to record biceps reflex.

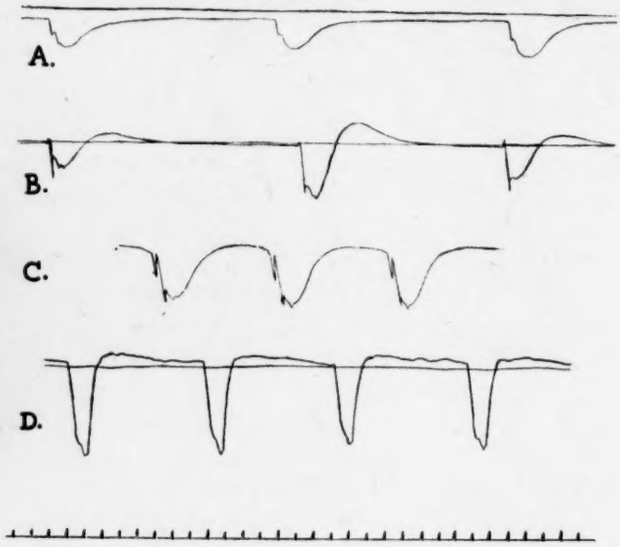

Fig. 2. Typical tracings. (a) Untreated myxedema. (b) Same case after treatment with thyroid. (c) Untreated myxedema. (d) Control—tuberculous pericarditis.
Time interval 0.2 seconds.

nemius muscle (Achilles tendon) give similar results.

Controls consisted of patients with (1) low basal metabolic rates without edema (anorexia nervosa); (2) edema without low basal metabolic rates (venous obstruction, cardiac failure, hypoproteinemia); (3) edema with low metabolic rates due to other diseases (nephrosis). The fourth control group was made up of normal individuals. Tracings were made for comparison on patients with hyperthyroidism and on patients with myxedema after treatment.

Results

The results are recorded in figure 3, and a typical tracing is shown in figure 2. The relaxation time was measured from the peak of contraction to the return to the baseline, the figures representing the average of five trials.

In untreated patients with myxedema the relaxation time was prolonged uniformly. When the patient was treated with dessicated thyroid the relaxation time was shortened, occasionally showing marked change before the basal metabolic rate rose appreciably. In the control group the relaxation time was usually 0.24-0.47 seconds, as compared with a relaxation time of 0.67-1.00 seconds in the untreated myxedema group. Chaney[1] found 0.7-1.1 seconds in untreated myxedema, and 0.5 seconds in the controls. Readings slightly above normal but still below the myxedema level were obtained in one instance of nephrosis (0.57 seconds), and in one case of non-toxic goiter (0.65 seconds). One man with edema due to venous and lymphatic obstruction in the right arm, from malignancy in the axilla, gave a reading of 0.71 seconds in that arm, and 0.36 seconds in the left arm. The venous pressure in his left arm was equal to that in the right, but there was no edema. In hyperthyroidism the relaxation time was not decreased. The relaxation time was not related to the venous pressure, the level of the serum proteins, or the albumin or globulin fractions. The blood cholesterol, calcium, and phosphorus levels showed no relation to the relaxation time. A few tracings of the quadriceps tendon reaction were similar to those of the biceps, but the excursion was usually less and calculations were more difficult.

Conclusions

The method described is simpler than that of Chaney[1], but gave comparable results. Apparently the delay in the relaxation of the muscles is due to the specific myxedematous infiltration of tissue, and not to increase in fluid alone. The reaction is readily recognized by the unaided examining finger and may be an aid in diagnosis in obscure cases.

Summary

An increase in the relaxation time of muscles was found and graphically recorded in cases of myxedema. The reaction may be an aid in diagnosis, since no other condition tested gave uniformly similar results.

FIG. 3. TABLE OF RESULTS

Case	Age	Sex	Color	Diagnosis	Duration	Thyroid Dosage	Date	Relaxation Time	BMR	Cholesterol	Serum Proteins			Calcium	Phosphorous	Venous Pressure
											Total	Albumin	Globulin			
					Years	Mg./Day		Seconds	%	Mg. %	Gm. %	Gm. %	Gm. %	Mg. %	Mg. %	Mm. H-2 O
BJ	55	F	W	Myxedema	5	0	11/28/40	0.93	−24	404	6.1	3.6	2.5			85
						0	1/16/41	1.00	−39	434	5.9	2.9	3.0			
						64	2/27/41	0.47	−40	490						
						0	4/29/41	0.60	−32							
						64	5/24/41	0.33	−15	250	5.0	2.7	2.3	9.1	4.1	190
WP	63	M	W	Myxedema	13	0	10/17/40	0.77	−34	292	6.5	2.4	4.1			128
						128	4/26/41	0.12	− 8							
JL	28	M	W	Myxedema	1	0	12/7/40	0.67	−28	360				8.9	1.5	
						0	3/7/41	0.52	−21	338						
								*0.47								
IW	55	F	W	Myxedema	3	0	5/17/41	0.82	−29	450	7.2	3.8	3.4			
						128	5/24/41	0.60	− 7	330						
ES	50	F	W	Myxedema, carcinoma of stomach	18	64	2/7/41	0.25	−10	258						
MB	18	F	W	Anorexia nervosa	1	0	1/24/41	0.42	−29	230	6.7	4.3	2.4	12.1	3.4	
								*0.49								
GB	31	M	W	Sprue	6	0	3/1/41	0.34	−20		5.0					
MS	30	F	W	Psychosis	1.1	32	3/2/41	0.24	−22	147	6.8					
								*0.25								
EG	42	F	W	Pituitary tumor	12	0	3/10/41	0.36	−10	220						
PM	49	M	C	Pericarditis	0.5	0	2/22/41	0.30	−24	198	5.3	2.4	2.9			200
								*0.21								
MG	44	F	C	Hypoproteinemia	1	0	2/20/41	0.37	−22	132	3.8	1.2	2.6	7.0	3.7	
								*0.26								
AG	66	M	W	Carcinoma axilla with edema right arm.	0.1	0	2/9/41	0.71			6.3	2.5	3.8			365
				Normal left arm.				0.36								345
SB	43	M	C	Nephrosis	0.3	0	1/16/41	0.41	− 6	510	4.5	1.1	3.4			
ML	37	F	W	Nephrosis	0.8	0	2/7/41	0.57		880	4.6	0.9	3.7			
AB	59	F	W	Nephrosis	0.3	0	3/1/41	0.24	− 8	908	4.9	1.2	3.7	7.4	5.6	
MC	37	F	C	Nodular goiter	4	0	1/26/41	0.65	+23	148						
LM	50	F	C	Hyperthyroidism	0.2	0	12/14/40	0.26	+55	235				10.1	3.0	
CT	53	F	W	Hyperthyroidism	0.1	0	1/25/41	0.35	+60	172						
BP	27	F	W	Hyperthyroidism	1	0	1/26/41	0.32	+35	220						
								*0.37								
RC	38	M	W	Normal			10/17/40	0.47								
FM	40	M	W	Normal			1/17/41	0.36								
GH	33	M	W	Normal			1/4/41	0.33								
HH	28	M	W	Normal			1/4/41	0.35								

* Indicates quadriceps muscle.

HEALTH PROBLEMS IN AN AREA SURROUNDING A LARGE MILITARY ESTABLISHMENT

M. T. FOSTER, M.D., M.P.H., *Health Officer Cumberland County*

FAYETTEVILLE

The expansion of a military camp from five thousand officers and men to a total of sixty thousand over a period of approximately ten months has caused many health problems to arise.

The normal housing facilities were already crowded in Fayetteville at the beginning of the program. Housing facilities were not available for the officers' families who were transferred here in large numbers at about the time the building program got under way at Fort Bragg. Citizens were asked to double up and make all the room possible for the officers' families, not only in Fayetteville but in nearby towns as well. Next came the problem of housing and feeding the construction workers, whose numbers reached a peak of twenty-five thousand within about three months. They began moving in, parking and living in every conceivable place—tobacco barn apartments, goods boxes, discarded bus bodies, and even hearses, with a few luxurious trailer homes. Ninety per cent of these various and sundry quarters were without water supply or sewage disposal except the woods and streams which nature provided. Our only recourse under existing laws was to notify the property owners to provide water and sewage disposal facilities. In most cases this was done by the property owner, who in turn made a charge for water, lights and garbage disposal. In some places the property owner was compelled to take out ejectment papers to get them off his property. When they moved from this property they would squat on some other nearby location. It would take about ten days to get them moved again, if the owner was lucky.

As the housing problem became more acute, with rents increasing rapidly, many tried cheaper lodging places, such as tents, huts, and trailers; they rented spaces to park, and formed what was unheard of before in Cumberland County—trailer camps. There are now some forty such camps in the county having from four to seventy trailers and huts in each place. The majority of them are located in the vicinity of Fort Bragg, usually near a store or filling station. The county had no past experience with such camps; therefore, the Board of Health had no rules and regulations governing them. Rules and regulations were soon adopted requiring approved methods of sewage disposal, proper garbage collection and disposal, and a safe water supply. It was clear in the beginning that the majority of trailer camp operators and people living in them disregarded even elementary sanitation. Even with sanitary facilities provided in convenient locations it was practically impossible to keep them from using the nearby woods. Since about 50 per cent of the workers were not house broken, a very serious sanitary problem was created. Carpenters and laborers have been so scarce that it has been almost impossible to get first class privies built. Concrete slabs were not available and the old style wood bench "Chic Sale" type of privy was accepted. A few of our better camps were equipped with water carried sewage and shower baths; however, this was an exception and not the rule. After much educational work, frequent inspections and a few prosecutions in certain camping areas sanitation was partially assured.

The people living in these boom town trailer camps are usually there for only one reason: to make as much money as possible and to spend as little as possible. They take little pride in their living conditions, their eating facilities, or in clean private premises. Usually they do not care whether they have a privy convenient or not; the woods suit them perfectly.

As Fort Bragg expanded and houses for rent became scarce and dearer, a building boom came on and in a few months Fayetteville was referred to as a "boom town." The building inspector's office shows that a house a day has been completed in Fayetteville for the past eight months. During the first 16 days of May the Fayetteville building inspector issued a total of 56 permits for construction totaling $136,030. This has more than doubled our job of septic tank supervision, and water and sewer connections.

The next problem was food establishments both near these trailer camps and in town. Since all available buildings were occupied it became necessary to construct cafes. Dur-

Read before the Health Officers' Section of the Public Health Association, Pinehurst, May 19, 1941.

ing this construction period cafe operators wanted to open temporary cafes in tents and other such locations, which we have not allowed. All food establishments are required to meet the state law in full. Regardless of how well the camp personnel is fed, the men rush to our local cafes on pay day. For a week or ten days after pay day at the Post there is hardly standing room in the cafes. Many cafe owners have a man at the door and will only let in as many men as there are seats, while others crowd them in as long as possible. The number of cafes and other food establishments have tripled, and we still have the crowded conditions, especially on week ends.

The combination beer parlor and hot dog stand, which in most cases is a hangout for prostitutes, has been one of our biggest headaches; with the cooperation of the law enforcement officers who pick up the prostitutes on a vagrancy charge we have improved this situation somewhat, but it still exists. We are inspecting the worst places weekly, the better places not quite so often. Some of these places have been in court as often as twice in one month. Under our existing laws we have to reinspect them when requested by the owner and let them reopen if they meet the minimum requirements. If our laws were amended so that after being closed by court order the third time, the owner would be barred from operating a food establishment in North Carolina, we could make some badly needed improvements in this type of eating place.

Almost all cafes and other food establishments are serving three times as many people as they were designed to accommodate. This has made it necessary for us to force the owner to install dish washing machines, buy more dishes, enlarge kitchens, and hire more help, which necessitates frequent inspections, much education, and occasional prosecutions.

New meat markets have run the cafes a close second. Practically every grocery store of any size has added a market. Cumberland County now has about one hundred and fifty markets and cafes. This is an increase of nearly 200 per cent, and several more are under construction.

Another serious sanitation problem is the lack of public toilets. It is not possible for the cafes, hotels, and other businesses to keep clean toilets with all the additional load put on them by this sudden expansion. Alleys, vacant lots, stairways, and almost any place in the dark are used as toilets. We now have plans and the appropriation for public toilet facilities. Because of the shortage of carpenters and laborers and because there is no WPA privy project, it is practically impossible to get sanitary privies built; therefore, we have had to accept privies of all sizes and shapes, with about one out of ten built to comply with plans. However, we see that each of them is fly proof and the owners are given to understand that as soon as labor is available they will be rebuilt to comply with plans and specifications.

Next comes the problem of grade A milk for all this increase in population. Our normal supply and demand was about 2000 gallons per day, including Fort Bragg. We are distributing about 8000 gallons daily now, all grade A products, and about 90 per cent Pasteurized. This has been done by the cooperation of plants and dairymen. The producers bought more cows and the plants more equipment. The plants and producers in other towns and counties have been very cooperative. We are now drawing a considerable amount of milk from these outside sources which comes into our plants labeled Grade A raw milk. Our milk supply has been on the Federal Honor Roll continuously for the past seven years. We now have arrangements made whereby we can take care of any additional expansion in our area with Grade A milk.

Problems are constantly being created in congested areas around military camps in the form of tent shows, carnivals and other fly-by-night types of entertainment. Such concessions will invariably try to sell food to the public without meeting the cafe law, fail to provide proper toilet facilities, and constitute the worst kind of nuisance during their entire stay. Often many prostitutes accompany this class of entertainment, and after the show has moved on an epidemic of syphilis and gonorrhea is left behind.

The problem of prostitutes is always great around army camps. There seem to be two schools of thought concerning the professional prostitute. The old idea, which some authorities still subscribe to, was that isolated districts, where the girls could be given routine medical examinations, telephone communication and police protection, were better than law enforcement and suppression of prostitution. However, I believe now that most authorities have agreed that suppres-

sion and law enforcement is the better method. In Cumberland County both methods have been tried. For some time an isolated district was tolerated and the prostitutes were required to be examined every two weeks. This was abandoned, and the girls were scattered over the county. Before the expansion of the camp when an isolated district was in operation it was estimated that approximately one hundred prostitutes were in the area. Since they have been scattered and the camp increased from five thousand to the present number, no one attempts to estimate the number of prostitutes in the county. Prostitutes can now be found on the various highways leading from Fayetteville. As a rule they do not stay long at one location. They can frequently be found occupying a house, about tourist camps, in hotels, on the streets, at the bus station, and in certain cafes. Very few, if any of them have medical examinations of any kind.

Several mass meetings have been called by the mayor to discuss the situation. Representatives from Fort Bragg, the State Board of Health, the American Social Hygiene Association, and the United States Public Health Service attended these meetings. A committee was appointed, which brought in recommendations advising the enforcement of all state and local laws in an effort to reduce the venereal disease rate and improve the morals of the county. Since this has been done the sheriff's office and the police department have made various raids and several arrests. Those placed in jail are examined for venereal disease. If found free of disease they are released; if found to be infected they are treated until non-infectious before being allowed to go back to their same profession. The army maintains several prophylactic stations in Fayetteville and on the reservation for both white and colored soldiers. The taxi drivers are the chief means of getting the men and women together. During the past few weeks the prostitutes have had more fear of the law than usual and are operating from wooded areas, changing locations frequently, the taxi drivers being the only ones informed as to their whereabouts. It is not infrequent for a professional prostitute to boast of thirty to fifty dates in one night. For several months the Health Department has received information from the post on all troops contracting a venereal disease. From this we have learned that one half of them apparently acquired their infection in other sections of the country. All of this makes a venereal disease control program a difficult task.

The Health Department has received hundreds of letters from health departments in this and other states concerning employees at Fort Bragg with syphilis, tuberculosis, and other diseases. An effort was made to locate many of these among the thirty-one thousand workmen and employees, but very few were found. The majority of these workmen have now completed their work at Fort Bragg and have gone home or transferred to other camps.

The crowded conditions have caused more cases of venereal disease to be discovered, owing to the increase in the number of domestic servants and food handlers examined, and to the Registrants' Serologic Survey. But on the other hand the overcrowded condition has made it very difficult to follow up delinquent cases. The cost of living jumped very rapidly and many people moved to cheaper places, leaving no forwarding address. To find a delinquent syphilitic prostitute is an exception and not the rule.

As the number of cafes, meat markets, and dairies trebled, so did the employees in these food handling establishments. This in turn trebled blood specimens for syphilis, smears for gonorrhea, and milk samples to be examined. The increase in population also caused more specimens to be sent to the local laboratory by private physicians. It has now become necessary to add an additional technician or continue to send one half of our specimens to the State Laboratory.

Many medical problems arise when so diversified a population from all sections of the country concentrates in one area. The question of indigent sick frequently arises. Several have become insane after living here a few months, having come from distances of many hundred miles. The trouble and expense incurred in transporting these individuals to their legal residence has been a definite problem. The school population in a number of places in the county has increased to such an extent that churches were used for school rooms. This increase has given us many more school children to examine and many more home visits for the nurses.

A definite effort has been made to render public health nursing service in the new trailer camp areas. Four offices have been established at strategic points for the vaccination of children against diphtheria and

smallpox, and of adults for typhoid fever. Nurses hold clinics in these areas weekly from 5 to 7 p. m., this being the most convenient time for the workmen. Nurses assigned to these areas visit the women and children in the camps in an effort to aid them in every way possible. A large number of immunizations have been done and several prenatal cases have been brought into our clinics. So far we have had no outbreak of disease, with the exception of a few cases of measles, mumps, and chickenpox. Most of the homes consist of cabins, tents, huts, or trailers, which are poorly ventilated but livable. In some instances as many as five people eat, sleep, and live in a one room cabin eight by twelve feet. Beds are improvised from studio couches, cots, double berths, etc. Electricity is usually available; water is used from buckets. The nurse discusses the importance of ventilation, screening, care of food, proper disposal of garbage, as well as general sanitation of the home and surroundings.

In areas around military establishments and other crowded areas the problems of the public health department are many and varied and can be taken care of only by cooperation of the health personnel and the people whom they serve.

Abstract of Discussion

Dr. H. W. Stevens (Jacksonville): Dr. Foster has given you a detailed summary of our problems. I say our problems, because his are an exact duplicate of mine. In defense areas at the present time, with the lack of facilities and cooperation we can only take care of the emergencies. A generalized health program in a county that has any army camp or cantonment can not be carried on at the present time unless you double or triple your staff, and I have found out in my case that that can not be done. There are not enough trained sanitarians and nurses to go around.

There are two or three problems in my county which, I think, do not exist in any other defense area: (1) I am in a large district composed of two counties that cover many square miles, and we only have twelve physicians practicing there, six in each county. Of the twelve, three are over age and do not care to leave their offices. Two out of the three have had heart attacks. The other physicians are so overworked that they do not care to handle one of our clinics. There are no physicians for venereal diseases or maternal care. They can make more money in twenty minutes in the office than with public health problems. (2) I was told the other day by Dr. Williams that the district I am in is the largest district in square miles and population east of the Mississippi without hospitalization. You gentlemen in counties that have a county or city hospital don't realize how lucky you are. The two hospitals nearest to my district are forty miles away. Another is fifty miles away. As you know, county hospitals do not accept charity cases from another county unless they are paid for by the county. I believe that I am in one of the poorest counties in the state. (3) We do not have a sanitation project. We expect next year to overcome some of these problems. In a county which has never had a health program the schools still use an open type of well with a bucket. In a county with no sanitation project and no W. P. A. labor available for construction, you have to educate the people slowly to the fact that they need sanitary privies, sanitary water supply, horse and cow stables out of the city limit—all of which requires slow work.

We have an emergency. With 10,000 people in a town with a population of 950, they are sleeping in everything from tree tops down to houses. The Chairman of the Chamber of Commerce never comes down town without locking his house. If he did, somebody would be living in the house when he got back.

The department has already made a number of big plans and we are looking forward to overcoming all these problems.

Dr. A. H. Elliott (Wilmington): I am from Wilmington, and Fort Bragg isn't very far and Camp Davis is at our elbow. We are as busy as can be getting ready to start a shipyard. Up until now, we haven't had the problems Dr. Foster and Dr. Stevens spoke of. Instead of being encouraged, I am terribly discouraged. No doubt we will have a great many of those same problems.

Uncle Sam has been very good to us, so far as housing goes and so far as the sanitation program is concerned. Before the defense program started at all, they built quite an extensive white and colored housing project to take care of our badly sanitated home sites, and now the program is there, they are building nicely equipped and thoroughly modern quarters for non-commissioned officers from Camp Davis. They have already built extensive trailer camps for workers in the ship yard, and I understand the housing authorities have constructed plans to build a number of permanent homes for the workers in the shipyard.

One of the things that worries us most in summer is the beach business that we probably will get from Dr. Foster's and Dr. Stevens' territory. Normally our capacity at all the beaches is taken up each summer provided we have nice summer beach weather. If you add even a little bit more than normal, the eating and toilet facilities at the local beaches are congested. If you add the population of Camp Davis and Fort Bragg over the week-ends, plus the holiday population, I really don't know what we are going to do. Both of the incorporated beaches have already considerably increased their public toilet facilities. However, I am sure from what Dr. Foster said that they are going to have to increase them considerably more.

Our food handling proposition hasn't amounted to anything yet, because we have not had these people from Dr. Stevens' and Dr. Foster's territory. The Government has given us a couple of men. One spends practically all of his time trying to get all eating places in line before the army gets there.

As I see it now, the beach problem is our greatest one. Getting and keeping under control our eating places certainly will be quite a problem.

Colonel Keller (Fort Bragg): General Coburn, the Senior Medical Officer at Fort Bragg, intended to be here for this meeting, but was called away on urgent business to Washington, and I wish to express for General Coburn our appreciation of the cooperation which we have received from Dr. Foster and the Cumberland County Board of Health.

They certainly have been most helpful to us at Fort Bragg and we sincerely appreciate their efforts.

Dr. J. Roy Hege (Winston-Salem): During the last couple of weeks I have had the privilege of going through the defense areas in eastern North Carolina, and in a hurried way seeing some of their urgent problems.

It seems to me that there are three major problems in the defense areas. Perhaps first is the sanitation problem, especially in the small communities where the general sanitation is very poor. In the larger units the water and sewage facilities are adequate to take care of this influx of population of laborers, but out in the rural areas, in communities of 200 or less, the problem of housing nine or ten thousand laborers and protecting them from insanitation is tremendous. It requires laws that have teeth in them. You are not dealing with your stable population. You can't stop long enough to educate them. They are gone before that would be possible, so you have to set up some very stringent sanitary rules and crack down on those people—make examples of them and let them understand that a law is something to be respected and observed. Until we do that, we are headed for some bad publicity in the way of typhoid and malaria.

Eating places that grow up over night out in these remote sections are built flimsily with just as little expense as possible. We have to use a very firm hand with them.

In the larger communities, such as Fayetteville and Wilmington, it appears to me that the biggest problem is venereal disease. These larger groups of people coming in attract undesirable girls, who must be dealt with. I wish that we could handle them as easily as we can handle one of these boys who comes in and sets down his house or trailer and goes to the branch to get water and throws sewage on the surface. We go after him quickly. Girls are harder to catch.

I haven't said anything about malaria. We have thirteen trucks equipped with a foreman and three or four men, and we have 70,000 gallons of oil to spread in the next few months in areas where mosquitoes are breeding and malaria is likely to occur. We have a couple of anti-mosquito units connected with the division to help find out where mosquitoes breed. We hope that quinine will prevent serious outbreaks of malaria.

We have been able to persuade the contractors at the Marine Base at Paradise Point to insist that everyone be vaccinated against typhoid before he reports for work. Dr. Stephens vaccinated 1200 Saturday. Every individual employed will go first through the first aid station, where he will receive one dose of typhoid vaccine.

I want to ask Dr. Hamilton whether one dose of typhoid vaccine will protect a worker during the camp building program? The contractors would not like to have these men sick on the job from a typhoid sore arm, but they are willing to allow this first immunization dose if it will protect the workers for some time. We have been told by some authorities that one dose will protect you for at least a year if you have had three doses previously.

In summarizing, I think that our major problems in the defense areas—that is, caused by the defense area itself—are those three things: typhoid, caused, of course, by insanitary conditions; malaria, caused by environmental conditions; and the venereal diseases. I think if we can control those, the community can carry on a regular health program as they would if the defense area were not there.

Dr. John H. Hamilton (Raleigh): We, in Raleigh, for three years have been giving one dose of typhoid vaccine, based on the best information of high officials in the Medical Corps. From all the tests that they have made, they state, the .1 cc. given intracutaneously will produce as high a degree of immunity, if not higher, for one year than three doses every three years.

Dr. R. M. Buie (Greensboro): I happened to be with the British Army during the other World War and it was their policy then to give one dose of anti-typhoid vaccine each year. It was a product of Burroughs and Wellcome. They gave ten minims each year. It was a pretty severe dose. What is the Army dose?

Colonel Keller (Fort Bragg): Three doses, the first one ½ cc. and the remaining doses 1 cc. of triple vaccine. Intradermal inoculations are being considered. They have not been officially accepted as yet. The preliminary reports are most encouraging.

Dr. C. C. Hudson (Greensboro): Col. Keller's last statement is based on a report of a meeting of the American Public Health Association either two or three years ago on some research work carried on at Johns Hopkins. If an individual has had three doses of typhoid vaccine at any time previously, one dose will give an immunity about as high as if he had three doses. It remains up for three or four months, and then begins to decline. This would afford enough protection for workers who had had vaccine before.

Dr. Williams: What is the dose?

Dr. Hudson: A little larger dose than is ordinarily given—enough to give some fever. Any fever will cause a jump in the immunity index if a person ever had typhoid vaccine before.

Dr. Foster: Since an epidemic occurred in a city in North Carolina from food handling last year, we have instituted typhoid vaccination of food handlers. We are relying upon one dose if they have had typhoid previously or have had typhoid vaccination at any time previously. We give one dose of 1 cc.

The Public Responsibility in the Fight Against Disease.—The results obtained by research in the attempt to make the world safe for humanity inspire greater efforts and justify hope of success. However, to accomplish the desired results there is needed, in addition to the superlative scientific work of many investigators, a better appreciation by the public that the fight against disease is the concern of every one. People must understand the hazards to health and life by infectious agents and accept responsibility for providing conditions which will prevent the transmission of communicable diseases. The individual who sneezes in the air condemns his fellowmen to suffering and losses they should be spared. The public must learn that to treat infecting agents without restraint is to establish disease and invite the possible penalty of an early commitment to the grave for eternity.—M. L. Crossley: Recent Advances in Chemotherapy, Science, 91: 370 (April 19) 1940.

Tuberculosis is a disease of long duration and may have many phases. It may be acute, but is more often chronic with periods of quiescense followed by exacerbations and so continues for many years. Patients discharged from the sanatorium should be considered as having completed only the first phase of treatment. Henry D. Chadwick, M.D., and Helen Evarts, Amer. Rev. of Tuber., March, 1940.

CARDIAC DECOMPENSATION IN CONGENITAL HEART DISEASE

(Report of Case)

DOROTHY B. WYVELL, M. D.
DURHAM

This patient is described because of the scarcity of case reports of cardiac decompensation in congenital heart disease. The patient was born at Duke Hospital on December 5, 1938, following a full term uneventful pregnancy and delivery. There was no cyanosis and he cried spontaneously. His weight at birth was 3050 Gm. The heart was not enlarged but there was a very soft systolic murmur. His mother was a 17 year old primipara with a negative Wassermann. Following discharge the boy was followed sporadically in the feeding clinic, and at the age of 6 months, when he was checked for circumcision, no murmur was heard. At 10 months, however, a loud, coarse systolic murmur was heard over the entire precordium.

On March 24, 1941, at 2 years of age, he was admitted to Duke Hospital with a complaint of sudden onset of swelling of his feet and ankles and early morning puffiness of his eyes which had appeared concurrently with an upper respiratory infection three weeks before. This was accompanied by an increase in the bluish hue of his lips that had been present since birth. He developed marked dyspnea and now slept propped up on two pillows.

Physical examination on admission showed a dyspneic cyanotic 2 year old colored boy with slight generalized edema. The temperature was 37.6 C. (98.6 F.), the pulse 152, respirations 26, blood pressure 92 systolic, 68 diastolic. The tonsils were large and injected and there was a cervical lymphadenopathy. The apical impulse was in the fifth interspace in the anterior axillary line. There was a systolic thrill and a loud rough apical systolic murmur transmitted to the axilla and to the back. Moist rales were heard at both lung bases. The liver extended 3 finger-breadths below the costal margin and was tender. There was shifting dullness in the flanks.

There were 5,800,000 red blood cells, with a hemoglobin of 79 per cent, and 11,000 white blood cells. The urinalysis, Wassermann test, and tuberculin test were negative. Chest x-ray and fluoroscopy showed a tremendously enlarged heart which was not characteristic of any particular anomaly. An electrocardiogram showed a P-R interval of .16 seconds and an extreme right axis deviation. The total blood proteins were 6.0 Gm. per 100 cc.; the albumin 3.0 and the globulin 3.0. A blood culture was negative.

The patient was given 2 Gm. sulfathiazole immediately, and 0.3 Gm. every four hours for four days until the pharyngitis had subsided. He was digitalized slowly and given two intravenous injections of 0.5 cc. salyrgan at a three day interval. Under this regime his liver regressed, the basal rales disappeared, his pulse dropped to around 90 and he lost weight from 10.05 Kg. to 9.77 Kg. He was discharged on April 11, 1941, with limited activity, a normal child's diet and 0.15 Gm. digitalis daily.

For three weeks at home he remained comparatively well, but was not given any medication. On May 4, 1941, his dyspnea, edema, and cyanosis recurred, and three days later he was re-admitted in congestive heart failure with similar but more marked physical findings than those of his previous admission. His nonprotein nitrogen was now 40 mg. per 100 cc., and he had developed a 3 plus reaction for albumin. He was rapidly digitalized with 0.2 Gm. every 4 hours for six doses. His pulse returned to normal, his liver again regressed, and the rales disappeared; however, his course was steadily downward and he expired on the fifth hospital day. Unfortunately no autopsy was obtained, but we believe that the most probable anomaly was a tetralogy of Fallot.

From the Department of Pediatrics, Duke University School of Medicine and Duke Hospital, Durham. Submitted for publication July 22, 1941.

Focal Infection and Hypertension. — When the chapter on focal infection is finally written, we shall find that we have been over-credulous in regard to this concept in the etiology of many chronic diseases. I refer particularly to the question of foci of infection as a cause of essential hypertension. There is no evidence that there is any real relationship between them, and this is just as true in regard to treatment. The removal of so-called foci of infection will not cure essential hypertension. This does not mean that foci of infection should not be removed from hypertensive or pre-hypertensive people, but only for the same purpose that they are removed in other people.—Edward Weiss: Renal Involvement in Hypertensive-Vascular Disease, Medical Annals of the District of Columbia, 9:420, December, 1940.

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STAFF ROOM ORACLE

You must know him. There is one in every hospital. He sits in the staff room for an hour or two, enthroned in the most comfortable chair, and delivers weighty opinions on topics of the day. While the other doctors are periodically pulled out of the room by the clang of the telephone or the summons of an intern, the Oracle remains undisturbed. Somehow no one seems to be calling *him* on business.

First he polishes off the war. Explains what Churchill ought to do and what Hitler intends to do. He next settles problems on the Washington front. Tells General Marshall how the draft army ought to be organized and advises Secretary Knox to build more destroyers and fewer battleships. Having disposed of that, he gives some attention to matters medical.

And this is where we come in. First he tells his transient audience what is wrong with the A. M. A. After explaining how it can earn his favor, he turns his highpowered intellectual spotlight on the State Medical Society. He thinks it spends too much of his money on this, and gives too little attention to that. "Now if I were running The Medical Society of New Jersey, I'd . . ."

All right, Doctor, stop right there. You *are* running The Medical Society of New Jersey. You and your 4000 medical colleagues. If you have any views on the conduct of the Society's affairs, you have ample opportunity to express them where they can do the most good. Should your views concern fundamental policy, you can get up on your two legs at the next County meeting, and ask the local Society to instruct its Delegates. If you can persuade your fellow practitioners of the merit of your case, your Delegates will convey your ideas to the next meeting of the House. And if they are sound, ideas will be accepted by the House of Delegates, which after all, is composed of perfectly reasonable men, willing to listen to any proposal that might help the Society.

Too long a procedure, you say. True, the democratic process is often a bit cumbersome, but this is no time to start advocating parliamentary short-cuts in the name of "efficiency".

And if your idea concerns an administrative technique rather than a fundamental policy, you can call it to the attention of the executive officers of the Society even more swiftly.

Here is how: pull over a piece of stationery and reduce your thoughts to writing. Don't waste them on an ever-changing audience in your own little staff-room. Seek a wider forum—where your ideas have some chance of translation into action. Just summarize your plans for the improvement of the Society, your grievance against present procedures, or your suggestions for change, and send them to the Editor of the JOURNAL. We will publish your suggestions, so that your colleagues can read them and talk them over; and we will transmit them to the Society's officers as well.

Writing to the Editor is a good old American custom. Sometimes when you propound your ideas in the staff room, your brethren snicker: "Hire a hall!" And you *can* hire a hall, too. The pages of the JOURNAL are open to you for that purpose. It is your forum, Doctor; the floor is all yours. What were you about to say?—Editorial, J. M. Soc. New Jersey, 38:345 (July) 1941.

Read this, substitute "North Carolina" for New Jersey, and then—"if the cap fits, pray wear it a bit."

THE BOWMAN GRAY SCHOOL OF MEDICINE OF WAKE FOREST COLLEGE

On Thursday, September 11, the Bowman Gray School of Medicine of Wake Forest College formally opened its first year's session in its new quarters in Winston-Salem. Dean Carpenter was master of ceremonies. After a brief introductory talk by President Thurman Kitchin, addresses were made by Santford Martin, Editor of the *Winston-Salem Journal and Sentinel;* Dr. Thomas T. Mackie, of the faculty of Columbia University; and Dr. Frederic C. Zaapfe, of Chicago, Secretary of the American Association of Medical Schools. No address consumed more than fifteen minutes; yet each was a model for such an occasion. Dr. Mackie's paper will be published in an early issue of the NORTH CAROLINA MEDICAL JOURNAL.

The expansion of this school into a complete four-year unit, after forty years' service as a two-year school, naturally raises the question in the minds of many as to the need for another four year medical school in North Carolina. The fact that as late as 1934 the president of the American Medical Association was advocating a reduction, rather than an increase in the number of medical graduates makes this question a pertinent one. Although the A. M. A. leaders may then have been unduly influenced by the New Deal policy of plowing under a third of our growing crops, and—to quote Will Rogers—trying to teach hogs birth control, the gradual increase of physicians, together with the almost stationary population of the country may justify such a policy for the nation as a whole. However, the situation in North Carolina is entirely different, as Dr. W. C. Davison, Dean of the Duke University School of Medicine, has shown. In an article published in the *Journal of the American Medical Association*[1], Dr. Davison points out that the ratio of physicians to population in North Carolina is less than half that of four Northern states (1 to 1284 for North Carolina, 1 to 629 for Illinois, Massachusetts, New York, and Pennsylvania), and but little more than half that of the national average. "Over half of the 241 counties in the United States with inadequate medical service are in the ten Southern states."[1] Furthermore, the trend of doctors has been steadily to the city, until less than 10 per cent of modern graduates nowadays go to communities of less than 5,000, although 48 per cent of the population lives in these rural communities.

The need for training future practitioners for North Carolina and other Southern states, especially for the rural districts, is emphasized by the fact that the average age of physicians in rural counties is 52 years[2]. It would seem that the law of supply and demand would eventually correct this faulty distribution; but, as Dr. Davison has pointed out, it is the exception rather than the rule for a doctor brought up in the city to adjust himself to life in the country. In Dr. Davison's words, "The South will not get its physicians by migration; the students should be Southern, and to get country doctors it must be possible for students from the rural counties to study medicine."

That the Bowman Gray School of Medicine has started in the right direction is evidenced by an analysis of the home addresses of the 72 men enrolled in its first and second year classes. Of these, 57, or 79 per cent, are from North Carolina, and 65, or 90 per cent, are from Southern states; 28, or 39 per cent, are from rural communities. While it is not to be expected that all those from the country will return to rural districts to practice, it is probable that a fair proportion of them will do so. As Dr. Davison has said, "Graduates tend to return to the environment to which they are accustomed."

That the Bowman Gray School of Medicine is expected to furnish medical men for the rural districts of North Carolina and other Southern states does not mean that the training of these men will not be of the highest possible standard. With the swing of the pendulum from the worship of specialization to a recognition of the family doctor's indispensability, our educational leaders realize the importance of thorough training for general practice. It is the aim of those most interested in the curriculum of the new school to graduate a large proportion of alert, keen, self-reliant practitioners who will be capable of wearing worthily the grand old name of family doctor.

1. Davison, W. C.: Opportunities in the Practice of Medicine, J. A. M. A. 115:2227 (December 21) 1940.

2. Pusey, W. A.: Medical Education and Medical Service: Further Facts and Considerations, J. A. M. A. 86:1501 (May 15) 1926.

MEDICAL CARE FOR MILITARY AND CIVILIAN POPULATION

In its defense program, the government has called for a ratio of 6.8 doctors to every 1000 soldiers—slightly less than one physician to 150 men. This is five times the national average of doctors for civilian population. It means that in North Carolina the soldiers will have almost exactly nine times as many doctors as a corresponding number of civilians will have.

Does this mean that our draftees are less healthy than are civilians? Or that early active participation in the war is anticipated? In view of the rigid standards applied in selecting the soldiers, they should certainly be at least as hardy as civilians. And even if we are to enter the arena of battle soon, does not the "total war" practiced by Hitler kill and maim as many civilians as soldiers?

Over and over again are heard complaints from doctors who have gone from busy practices into the army. These complaints seem to stem mainly from the feeling that they are not really needed as doctors. One physician recently stated that he had been in the army four months, and had not yet been assigned to a real job. A "Medical Corps Reservist" from Camp Grant, Illinois, writing in *Medical Economics* for July, was shocked when his commanding office "told me I might as well forget medicine for a year. Yet it accurately states the case in this temporary career as a drill master. It was the same with some 200 other medical officers called to duty at Camp Grant." A veteran surgeon, who has headed a surgical clinic for years, is allowed to use his surgical ability only in changing dressings. Another brilliant young internist is irked that he can not give a sulfonamide drug without permission from his superior officer. When a doctor has been trained from his intern days to exercise his own judgment, it is hard for him to be forced to ask authority to prescribe for a sick man.

It would seem that much of this criticism from medical officers would not have arisen had there been enough for them to do. Yet the vacancies left in private practice by those who have gone into the army have caused many of the remaining civilian doctors to be greatly overworked. Although no lack of patriotism is intended, it seems reasonable to raise the question as to whether the present division of doctors between our military and civilian population is equitable or wise.

* * * *

SHALL THE AMERICAN MEDICAL ASSOCIATION BE DESTROYED?

In his address to the House of Delegates of the American Medical Association, Dr. Frank Lahey elaborated a statement made at the Pinehurst meeting of the North Carolina State Society: that in order to be fully appreciated, the American Medical Association would have to be destroyed. "We are all so adjusted to the aid, the resources and the helpful facilities of the Association that we tend, I believe, to make the mistake that is so often made by unappreciative husbands who think of their good wives much as they think of a comfortable piece of furniture. Not only does this thought, it seems to me, relate itself to those of us within medicine who benefit from its help and existence but, with even greater probability of the truth of the statement, by the lay public and by the government itself."

It is hard to take such a thought seriously; yet in the course of the A.M.A. trial, counsel for the Department of Justice bluntly said that if the A.M.A. were found guilty of conspiracy, the Government's next move would be an attempt to have it dissolved.

As long as we live in a democracy we have the right to free speech. In the Secretary's Message for July the words of Abraham Lincoln were quoted: "Public sentiment is everything. With public sentiment nothing can fail: without it nothing can succeed." Let us use our influence with our families and especially with our representatives to protest against the possibility of such a tragedy as the dissolution of the American Medical Association. And let us remember that the National Physicians' Committee is the *only* well organized division in the medical army for carrying on the particular kind of fighting needed here.

CASE REPORTS

CLINICO-PATHOLOGICAL CONFERENCE

DUKE UNIVERSITY SCHOOL OF MEDICINE

DR. J. LAMAR CALLAWAY: This patient was a 25 year old colored male admitted to the hospital because of chills and fever of seven weeks' duration. His past history is interesting in that he had had a penile lesion five years previously which was treated topically and disappeared in four days. For the past year and a half he had received regular antisyphilitic treatment consisting of alternating courses of intravenous and intramuscular injections at weekly intervals. Seven weeks prior to admission he received both an intravenous and an intramuscular injection and shortly thereafter developed a hard shaking chill followed by fever and associated with a cough productive of whitish sputum. There was no chest pain. He continued to run fever and have recurring chills, and he noticed that his urine appeared amber colored. However, he continued working and taking intravenous injections weekly for the following four weeks. Then, after receiving an intravenous and an intramuscular injection, he became weak and nauseated; he had another chill with fever, and developed a generalized skin eruption. He consulted his physician, who told him he had pneumonia and prescribed for him two large white tablets every four hours. He took these for three or four days, then stopped of his own accord because of anorexia, nausea, and vomiting. A second physician was called and treated him for kidney trouble. His urine continued to be amber in color, and he developed a bilateral flank pain which persisted and was followed by ankle edema. He voided five to six times daily, but in small amounts. There was no burning and no dysuria. His skin eruption gradually disappeared. His fever persisted, although he had had no chills for three weeks prior to admission. He also had a persistent moderate hacking non-productive cough, but there had been no jaundice or discoloration of his eyes or skin.

Physical examination revealed a well developed, adequately nourished colored male of about 25 who appeared gravely ill. His temperature was 39.2 C., his pulse 120, respirations 24, and blood pressure 110 systolic, 70 diastolic. His sensorium was slightly cloudy, but he responded rationally. His skin was essentially normal. There was generalized lymph node enlargement of moderate degree; the nodes were freely movable, discrete, and non-tender. They varied in size from a pea to an acorn, except in the right supraclavicular fossa, where a mass about 2½ cm. in diameter was felt. The extremities showed a moderate pitting edema of the ankles. The head was normal. The eyes showed no icterus. There were marked dental caries and pyorrhea. The respirations were moderately increased but approximately equal. The liver and splenic dullness was somewhat increased, and there was increased dullness at both bases posteriorly, especially on the right. There were moist rales in both axillae and at both bases; breath sounds were somewhat diminished over the bases. The heart was essentially negative, except for a tachycardia. The abdomen was moderately distended. The liver was palpable one hand's breadth below the right costal margin in the midclavicular line. It was smooth and markedly tender. The spleen was palpated two fingers' breadth below the left costal margin and was likewise tender. There was a small amount of fluid in the flank. There was moderate tenderness to fist percussion in both costovertebral angles, which was somewhat greater on the right. The remainder of the physical examination was essentially negative.

Accessory clinical findings revealed a hemoglobin of 65 per cent, 3,180,000 red blood cells, and 1,960 white blood cells. The differential count showed polymorphonuclear segmented forms 66 per cent, polymorphonuclear stabs 16 per cent, large lymphocytes 2 per cent, small lymphocytes 12 per cent, eosinophils 2 per cent, monocytes 2 per cent. The sedimentation rate was 14 mm. per hour. The Wassermann and Kahn reactions were positive. The urine was clear, reddish amber in color, with a specific gravity of 1.015, an acid reaction, no sugar, and a 3 plus reaction for albumin. The microscopic examination showed the urine to be loaded with granular casts and red blood cells, with 5 to 6 white blood cells per high power field. The benzidine reaction was positive. The urobilinogen was positive in a dilution up to 1 to 40. The stool examination was negative except for 2 per cent benzidine after ether extraction. Blood chemistry revealed a nonprotein nitrogen of

26 mg. per 100 cc., plasma chlorides 512 mg. per 100 cc., total proteins 5.3 Gm. per 100 cc., with an albumin-globulin ratio of 0.61. The van den Bergh reaction was not elevated. Repeated blood cultures were sterile. Blood agglutination tests including Widal, Proteus X2 and Proteus X19 were negative. Stool culture was negative for the typhoid-dysentery group. Repeated sputum examinations were negative for acid fast organisms, and no fusiform bacilli or spirochetes were seen by dark field examination. Sputum culture revealed alpha hemolytic streptococcus and non-hemolytic staphylococcus aureus. An x-ray of the chest showed what appeared to be fluid obliterating the right costophrenic sinus and extending upward to the level of the fourth rib in the anterior axillary line. A moderate increase in density was visualized throughout the lower half of the right lung field and in the left lower lobe. The heart appeared to be slightly enlarged. A liver function test revealed 4 per cent retention of bromsulfalein at the end of an hour. The galactose tolerance test showed 1.48 Gm. excreted in four hours. Electrocardiographic studies revealed sino-auricular tachycardia with levogram predominant. There was no indication of myocardial disease. Thoracentesis of the right chest was done and 900 cc. of grossly bloody fluid with a specific gravity of 1.015 was removed. This fluid contained 60,000 red blood cells per cubic millimeter and 2600 white blood cells per cubic millimeter, of which 30 per cent were polymorphonuclears and 70 per cent mononuclear cells. No organisms were stained in this material and the culture was sterile. A lumbar puncture yielded 10 cc. of slightly turbid spinal fluid with an initial pressure of 300 mm. of water. The benzidine reaction was negative. Ninety-five white blood cells per cubic millimeter were present, of which 36 per cent were polymorphonuclears and 64 per cent were mononuclear cells. The spinal fluid sugar was 27 mg. per 100 cc., with a total protein of 260 mg. per 100 cc. The spinal fluid Wassermann was positive and the colloidal mastic test gave a paretic type curve.

The patient's course was progressively downhill. He ran a specific temperature which was never below 39 C. and on one occasion went above 40 C. On the sixth hospital day he developed a stiff neck with positive Kernig and Brudzinski's signs, and a positive Babinski on the left. Treatment consisted of parenteral fluid with dextrose and all the accessory vitamins. In addition, he received daily 45 units of a concentrated liver extract intramuscularly and 10 cc. pentnucleotide intramuscularly. He received two transfusions of 400 cc. each of citrated blood, but despite all therapy he expired quietly on the ninth hospital day, approximately eight weeks after the onset of his illness.

Discussion

The data presented in this case are somewhat confusing. The patient is known to have had syphilis, and he had been receiving regular antisyphilitic treatment for eighteen months. The onset of his illness was with chills and fever, and might be thought to be due to heavy metal antisyphilitic treatment, but the fact that he continued taking arsenical injections for four weeks is against that premise.

His white cell count of 1960, with an essentially normal differential except for a mild shift to the left, is against heavy metal intoxication, for as a rule depression of the white count by either arsenic or bismuth results in granulocytopenia. The essentially normal sedimentation rate does not fit in with any acute infectious disease. The urine was loaded with casts, white blood cells, and red blood cells, and had a 3 plus reaction for albumin with a positive benzidine reaction; but the nonprotein nitrogen was 26 mg. per 100 cc. The kidney damage may be the result of infection, arsphenamine, or the sulfonamide which he apparently was taking. The fact that blood cultures and all agglutination studies were negative tends to rule out typhoid, Ricketts' disease, and other rare illnesses. The liver function test indicated liver damage, which might be due to heavy metals, sulfonamides, metastasis, infection, or one of the lymphoblastomas. The spinal fluid pressure was increased, with a total protein of 260 mg. per 100 cc. There were positive spinal fluid Wassermann and colloidal mastic tests; however, with a spinal fluid sugar of 27 mg. per 100 cc., 95 white blood cells with 36 per cent polymorphonuclears and 64 per cent mononuclear cells, and sterile fluid, tuberculosis becomes the most likely etiologic factor. There was a bilateral pneumonitis with sterile bloody fluid, and bloody pleural fluid indicates the probability of malignancy; in view of the infec-

tion, however, it still appears that tuberculosis is the most probable factor.

Although syphilis is obviously present, I do not believe that syphilis or therapy associated with it played any part in this man's illness. The lymphoblastomas must be kept in mind, as should malignancies and other infectious processes. However, I believe that disseminated hematogenous tuberculosis involving the lungs, liver, spleen, meninges, and body generally will best explain the entire disease process.

DR. F. M. HANES: I think it is well to point out here that the presence of a mass, presumably a lymph node, in the right supraclavicular fossa does not always indicate malignancy of the stomach, as this case well illustrates. Virchow's node, once thought to be indicative of metastasis from carcinoma of the stomach, may be due to a variety of conditions.

DR. D. T. SMITH: I agree with Dr. Callaway's analysis of this case that tuberculosis is the most likely diagnosis. However, if it is tuberculosis it must be a case of primary generalized tuberculosis. This would explain the enlargement of the superficial lymph nodes, particularly in the supraclavicular fossa. From the appearance of the x-ray there is no obvious enlargement of the tracheobronchial lymph nodes, for the primary infection was probably not in the lung. In view of the abdominal findings I think it is more likely that this is a case of primary tuberculosis, with the original infection entering through the intestines.

DR. O. C. HANSEN-PRUSS: A study of the bone marrow and peripheral blood indicates arrest of the maturation factor, most likely due to the infectious process.

DR. J. M. HENDRIX: At the outset we felt that this patient's condition might be explained on the basis of reaction to the heavy metals, but in view of the course of his disease and the spinal fluid findings, we felt that the best explanation would be that of hematogenous tuberculosis.

Clinical Diagnosis

1. Disseminated hematogenous tuberculosis involving the lungs, spleen, liver, lymph nodes, kidneys, etc.
2. Toxic depression of bone marrow due to tuberculous infection.

Pathological Discussion

DR. D. H. SPRUNT: In this case we have an extensive disseminated miliary tuberculosis. Tubercles were found in the lungs, spleen, liver, thoracic and abdominal lymph nodes, kidneys, adrenals, diaphragm, and peritoneum. The spleen, liver, and abdominal nodes, both mesenteric and retroperitoneal, were extensively involved. The gastrointestinal tract itself, however, showed no involvement. At first we were inclined to agree with Dr. Smith that this was a case of primary infection through the intestines. Further study, however, revealed old calcified tubercles in the hilus nodes and an old primary lesion in the lungs. Microscopic preparations of the lungs showed extensive involvement of the vascular system which appears to be the origin of the disseminated tuberculosis. Terminally in this case there was a tuberculous pneumonia and meningitis.

Evidence of an acute anterior gonococcal urethritis was found, but no syphilitic lesions were seen.

Anatomical Diagnosis

1. Calcified tuberculous hilus lymph nodes.
2. Old primary tuberculosis of the lungs.
3. Miliary tubercles in lungs, liver, thoracic and abdominal lymph nodes, kidneys, adrenals, diaphragm, and peritoneum.
4. Tuberculous pneumonia and meningitis.
5. Pleural effusion, bilateral.
6. Hyperplasia of bone marrow.
7. Acute anterior gonococcal urethritis.

Testing of Ideas.—The critical testing of ideas, though a fundamental practice of the scientist, is a habit difficult for the average human being to adopt. An original idea is a brain-child and tends to be jealously cherished as such. To expose it to the cold light of reason takes a sort of Spartan courage that is too often undeveloped and yet is one of the essential attributes of any one who aspires to be called a real scientist. To be merely logical with facts selected for a purpose is much easier than to divest oneself of bias. Steadfast courage and a renunciation of false pride are required in the search for opposing rather than supporting evidence.—Eliot Blackwelder: Science and Human Prospects, Science, 93:360 (April 18) 1941.

The Layman's Conception of Science.—Failing to understand what the real scientist must be and what the essentials of science are, part of the public today is led to accept as science various elaborations of intuition, speculation and fancy, such as were much more widely current a few centuries ago. It is regrettable, but in a free country perhaps unpreventable, that the cloak of science should be donned and worn by faith-healers and other mystics who have no comprehension of the meaning of the term.—Eliot Blackwelder: Science and Human Prospects, Science, 93:360 (April 18) 1941.

CLINICO-PATHOLOGICAL CONFERENCE

City Memorial Hospital

Winston-Salem

Dr. C. H. Moricle (reading the clinical summary): C. M., a 23 year old colored female, was admitted to the hospital on June 28, 1941, with the complaint of pain in the lower back and abdomen and excessive vaginal bleeding.

The present illness began about a week before admission with cramp-like pain in the right lower quadrant, followed by nausea but no vomiting. These symptoms had begun five days after the beginning of her last menstrual period, which was still present. The periods usually lasted four days and had never been irregular. She had had some frequency and pain on urination and lately had had a moderate amount of leukorrhea. The history was otherwise negative.

Physical examination revealed a well developed and well nourished female. The head, neck and chest were normal. The blood pressure was 130 systolic and 80 diastolic. There was slight tenderness in the right lower quadrant of the abdomen but no rigidity or spasticity. Pelvic examination showed the cervix pointing anteriorly, with the fundus in the cul-de-sac. There was slight tenderness on the right and very little pain on manipulation of the cervix.

The red count was 4,190,000, the hemoglobin 13 Gm., and the white count 14,850, with 77 per cent polymorphonuclear cells and 23 per cent lymphocytes. The sedimentation rate on the fourth day after admission was 3 mm. and on the fifth day after admission, 40 mm. (Wintrobe).

The patient ran a slight fever each afternoon, the highest being 100.8 F. on the second day. She received sulfanilamide the first week of her stay in the hospital. The second week her temperature was normal, and at the end of the third week a laparotomy was done. Both tubes showed chronic inflammation, and the left ovary contained cysts. Both tubes, the left ovary and the appendix were removed. The pelvis was clear. The patient's postoperative course was uneventful for the first four days except for a moderate elevation of the pulse. On the night of the fourth postoperative day her abdomen became distended. The following morning the abdomen was still distended and Wangansteen drainage was started with good results. No peristalsis was heard on auscultation of the abdomen. Enemas and prostigmine resulted in the passage of flatus. The patient was given glucose three times daily. The temperature gradually rose to 103.8 F. on the night of the sixth postoperative day. The next morning her temperature was down and the patient seemed to be better. She was given a transfusion that afternoon and expired an hour later.

Discussion

Dr. E. L. Gilbert: This is an odd case. It seems to me that in any colored female who had had no irregular menses in the past and who suddenly started a prolonged menstruation an early incomplete abortion or a ruptured ectopic pregnancy would have to be considered. I assume that menstruation ceased prior to laparotomy. Another strange thing is that the patient had a white count of 14,000 with 77 per cent polymorphonuclears, and on the fourth day the sedimentation rate was normal. On the fifth day the sedimentation rate rose to 40 mm. This, to me, seems indicative of abscess formation somewhere. There is no mention of other blood counts or of any other sedimentation rates. Her uterus was certainly retrodisplaced. In view of the sedimentation rate of 40 mm., with no pain on manipulation of the cervix, it seems to me that we should seek other grounds of trouble; however, at operation there was found to be chronic salpingitis. The appendix, I presume, was taken out prophylactically. How much dependence we can put on the sedimentation rate is doubtful. A sedimentation test was not done in the two and one-half weeks that remained of her stay in the hospital. No other blood count was made. There is a question in my mind as to whether this patient should have been operated upon. Almost every patient coming in with such a history would have a moderate amount of leukorrhea. In the report there is no mention of the size of the tubes or of whether the tubes were patent. A small cyst of the ovary can be ruptured without removing the ovary. Anyone performing a pelvic operation should watch particularly for any possibility of infection on the fourth postoperative day. For a patient who passes the fourth postoperative day without any elevation of temperature or evidence of infection the prognosis is pretty good, but should the temperature

flare up on the fourth day the prognosis is serious. It is obvious that this patient on the fourth day developed a peritonitis. Where this peritonitis originated is another question: whether the stump of the appendix blew out or whether pus exuded from the tubes. If the appendix was removed prophylactically, I do not believe the appendiceal stump would blow out. You certainly could not expect infection from a cystic ovary. Therefore I believe that instead of chronic salpingitis there was a virulent infection in these tubes, some of which spread into the pelvis, producing a generalized peritonitis. Had a sedimentation test and a blood count been done accurately, I believe you would have found an increase in the sedimentation time and in the white cell count on the day prior to operation. On the seventh postoperative day the temperature was lower and the patient seemed to be better. There is no mention of the pulse. I believe that the pulse would have been much higher, and that the fall in temperature was probably due to exhaustion from an increased peritonitis. How old the blood was and what method was used I don't know. I doubt if the patient had a reaction from the transfusion during the injection. I think death was caused by a generalized peritonitis from a virulent infection in the tubes, which was probably aided by a reaction from the transfusion. It seems to me that the patient should have had some sulfonamide drug after operation. If she was much better on the seventh postoperative day, why was the transfusion given?

DR. C. H. MORICLE: Because we could not get the blood before.

DR. W. L. GRIMES: Did the blood match exactly? I feel certain that the transfusion had a good deal to do with the death. The patient may have had a pneumonia. There is nothing about the respiration and nothing about auscultation of the chest.

DR. C. H. MCCANTS: They were all negative, as far as we could find. The respirations are on the chart. I think Dr. Moricle left out a good deal of evidence that might be helpful because it was negative. At first I thought the patient had an ileus. There was not much fever. The abdomen was silent. There was not much reason for peritonitis. We could not figure out the source of infection.

DR. J. F. MARSHALL: What organism did you think was producing this pelvic infection?

DR. E. L. GILBERT: There were no pelvic adhesions, and in my opinion that would rule out streptococcus infection; no abscess was found in the pelvis at the time of operation, so that would rule out staphylococcus infection. I think the infection was gonococcic in origin.

DR. J. F. MARSHALL: There is no mention of the wound. I presume that it was clean.

DR. C. H. MCCANTS: There is a note that some of the stitches were removed on the sixth postoperative day and the wound was probed to see if there was any infection. It was perfectly clean.

DR. J. F. MARSHALL: Was it probed deeply?

DR. C. H. MORICLE: Yes.

DR. C. H. MCCANTS: Dr. Frost, what do you think of the two sedimentation rates—one down one day and one up the next day—along with the very low-grade temperature?

DR. T. T. FROST: One sedimentation rate is obviously wrong, but I would be afraid to say which one.

DR. C. H. MCCANTS: Usually if the temperature does not flare up when a pelvic examination is done, you can say that the infection is quiet. This patient had a pelvic examination a few days before operation, with no rise in temperature, and the subsequent infection was rather surprising to us.

DR. J. F. MARSHALL: One condition which has not been mentioned is possible, but not likely—a pelvic phlebitis. It was rather early for this and there would probably be less distention and more pain in the pelvis and groin.

DR. FRED GARVEY: She might have had a thrombosis from the pelvic operation. This causes distention and pain in the abdomen, and death is sudden.

DR. S. S. MILES: Did she have any temperature rise from the transfusion, or any increase in pulse or a chill during the transfusion?

DR. C. H. MORICLE: No.

DR. J. F. MARSHALL: How did she die?

DR. C. H. MORICLE: She said she felt as if she were smothering to death.

DR. J. F. MARSHALL: Was there any pain in the chest?

DR. C. H. MORICLE: There was moderate

pain in the chest. A catheterized specimen of urine was very dark.

DR. E. L. GILBERT: I think it was dark before the transfusion.

Clinical Diagnosis

Transfusion reaction.
Peritonitis.

Dr. Gilbert's Diagnosis

Generalized peritonitis secondary to salpingitis.

Anatomical Diagnosis

Generalized peritonitis.
Chronic passive congestion.
Acute myocardial failure following transfusion.

Pathological Findings

DR. T. T. FROST: The patient had at the time of autopsy slight swelling and a very slight but definite pitting edema of the feet and ankles. The peritoneal cavity contained a moderate amount of yellowish pus, and the loops of intestine along both flanks were matted together. In the center the omentum lay loosely over free coils of intestine and there were a very few delicate fibrinous adhesions present. There were several loops of small intestine matted over the pelvic organs, and an inflammatory reaction was present throughout the entire pelvis. This arose from an abscess in the cul-de-sac on the left which communicated with the peritoneal cavity. The uterus was of normal size and contained a small amount of blood clot. The right pleural cavity contained 400 cc. of straw-colored fluid and the left 200 cc. The heart was normal in size. It was somewhat dilated and somewhat flabby. The lungs were purple and boggy, and when they were cut a considerable amount of red fluid escaped from them. The liver and the kidneys showed cloudy swelling. The spleen was rather small, pale and purple. Microscopically the section of the tube removed at operation showed an inflammatory process with considerable thickening of the walls. The folds of the mucosa were thickened and edematous. In the serosa there was edema with some fresh hemorrhage, and in the small vessels there was margination of the leukocytes and evidence of still active inflammation. The ovary simply had follicular cysts. The section of lung showed marked edema and severe passive congestion with large numbers of "heart failure cells". No pneumonia was present. The kidneys showed none of the signs that you would expect to find in a transfusion reaction. There was edema in the papillae and marked distention of the blood vessels. The liver showed cloudy swelling. The heart showed edema and severe cloudy swelling. In certain areas there was fragmentation of the muscle and marked decrease in visibility of the striations.

This all adds up to show that this person had a considerable degree of heart failure long before she was given the transfusion. This weakened heart was suddenly dilated with 500 cc. of blood run into the veins. How long did it take to give the transfusion?

DR. C. H. MORICLE: She only had about 300 cc. given in about forty-five minutes.

DR. T. T. FROST: It was too much and given too fast. Saline or glucose or any other fluid would have had the same effect. The condition of the heart should always be determined before intravenous solutions and transfusions are given.

Squibb Stilbestrol Released For Sale

After two years of clinical trial, during which time over a hundred papers were published reporting studies in which it was used, Stilbestrol manufactured by E. R. Squibb & Sons, New York, is now offered for sale to the druggists of the land. Stilbestrol is a synthetic estrogen possessing the physiologic properties of estrogenic substances derived from natural sources. Chemically, it is alpha. alpha'-diethyl-4, 4'-stilbenediol. It is also called diethylstilbestrol.

Stilbestrol orally has a ratio of effectiveness to intramuscular injection much superior to that possessed by natural estrogens. It has another advantage over the natural estrogens in that it is considerably more economical.

Striking therapeutic results have been obtained with estrogenic substances, whether natural or synthetic, in alleviating the vasomotor symptoms of the menopause. In proper dosage, they are also effective in treating gonorrheal vaginitis in children, senile vaginitis and kraurosis vulvae and pruritus vulvae of the menopause. It may also be useful in relieving painful engorgement of the breasts during suppression of lactation.

Squibb Stilbestrol is supplied in three forms:

Compressed tablets, either uncoated or enteric coated (for oral administration) containing 0.1 mg., 0.5 mg., 1.0 mg. or 5.0 mg. in bottles of 25, 100 and 250.

Stilbestrol in oil (for intramuscular injection) in 1-cc. ampuls containing 0.2 mg., 0.5 mg., 1.0 mg. or 5.0 mg. per 1 cc. respectively, in boxes of 6, 25 and 50.

Pessaries (for vaginal medication) in two sizes: 0.1 mg. for children and 0.5 mg. for adults, both in boxes of 12 and 50.

In common with other highly potent chemotherapeutic agents, Stilbestrol should be used only by or under supervision of a physician. Literature describing its dosage, indications and precautions is available to physicians upon request.

MEDICOLEGAL ABSTRACT

J. F. Owen, M.D., LL.B.
Raleigh

Malpractice: Physician not liable for honest mistake or error in making diagnosis and prescribing treatment if he utilizes reasonable skill and diligence as is ordinarily used in his profession.

This is a case in which two physicians were sued by a man and his wife to recover damages for malpractice of the defendants in wrongly and negligently diagnosing the woman plaintiff's pregnancy as a case of fibroid tumor of the uterus or an ovarian tumor. It was also alleged that the operation performed by the defendants was negligently done, inasmuch as a postoperative hernia resulted. According to the complaint the doctors, after their examination had been made—each acting separately in making it, and consulting thereafter together in regard to it—reported that the woman plaintiff was suffering from an ovarian tumor of rapid and malignant growth and that an immediate operation was necessary. When the incision in the abdomen was made so that visual proof of her condition was afforded, it was found that there was no tumor, but that instead she was between four and five months advanced in pregnancy. Upon the discovery of pregnancy at the time of the operation the surgeon closed the wound, the patient recovered from the operative procedure, and in due course was delivered of her child without any untoward incident. She afterwards, within the usual period, was restored to her normal health. Specifically, among other things, the plaintiffs alleged "that the defendants negligently performed the operation without possessing or exercising the knowledge and skill possessed by the ordinary physician and surgeon, and without possessing and exercising this knowledge did negligently and carelessly undertake to diagnose and determine the condition of the woman plaintiff; and did without possessing and exercising the skill and knowledge possessed and exercised by the ordinary physician and surgeon, carelessly, negligently, and erroneously diagnose and determine that the said feme plaintiff was suffering from an ovarian tumor of rapid growth, when in fact she was not so suffering, and that the defendants knew or should have known it by the exercise of the ordinary knowledge and skill possessed by the average physician and surgeon."

The defendants distinctly and circumstantially denied each and every allegation of negligence or malpractice, and the existence of any fact tending to show it, or to prove that they acted otherwise than the most careful and skillful physician or surgeon would have done under like circumstances. They also denied all right to damages, and this denial made up the issues submitted to the jury. The defendants claimed that the case was difficult to diagnose because of the presence of numerous abnormal findings. This claim was supported by medical experts, who were of the opinion that the defendants possessed and exercised the required knowledge and skill in connection with the case.

In the Superior Court a verdict was returned in favor of the defendants, whereupon the plaintiffs appealed to the Supreme Court.

The lower court was affirmed by the Supreme Court, and in substantiation of the judgment the Justice made the following statement: "A physician entitled to practice his profession, possessing the requisite qualifications and applying his skill and judgment with due care, is not ordinarily liable for damages consequent upon an honest mistake or an error of judgment in making a diagnosis, in prescribing treatment, or in determining upon an operation, where there is reasonable doubt as to the nature of the physical conditions involved or as to what should have been done in accordance with recognized authority and good current practice. Whether errors of judgment will or will not make a physician liable in a given case depends not merely upon the fact that he may be ordinarily skillful as such but whether he has treated the case carefully and has employed in his treatment such reasonable skill and diligence as is ordinarily exercised in his profession. There is a fundamental difference in malpractice cases between mere errors of judgment and negligence in previously collecting data essential to a proper conclusion, or in subsequent conduct in the selection and use of instrumentalities with which the physician may execute his judgment. If he negligently omits to inform himself as to the facts and circumstances and injury results therefrom, then he is liable." (North Carolina Supreme Court, Vol. 177, p. 476. Decision rendered spring term 1919.)

If they could talk, Council Seals would say:

"When you see one of us on a package of medicine or food, it means first of all that the manufacturer thought enough of the product to be willing to have it and his claims carefully examined by a board of critical, unbiased experts . . . We're glad to tell you that this product was examined, that the manufacturer was willing to listen to criticisms and suggestions the Council made, that he signified his willingness to restrict his advertising claims to proved ones, and that he will keep the Council informed of any intended changes in product or claims . . . There may be other similar products as good as this one, but when you see us on a package, you know. Why guess, or why take someone's self-interested word? If the product is everything the manufacturer claims, why should he hesitate to submit it to the Council, for acceptance? Mead Johnson Products are Council-Accepted."

Squibb Supplies Solution Sodium Ascorbate For Intravenous Administration of Vitamin C

For patients who are severely ill or with abnormal requirements of vitamin C such as are connected with surgical procedures, and for patients with poor utilization or faulty absorption of this vitamin, E. R. Squibb & Sons, New York, now supply Solution Sodium Ascorbate for intravenous administration. Made from the sodium salt of pure synthetic ascorbic acid (vitamin C), Solution Sodium Ascorbate contains per 1 cc. an amount equivalent to 100 mg. of ascorbic acid (2,000 U. S. P. XI units of vitamin C). It is supplied in 1-cc. ampules, packaged in boxes of six and 25.

The average dose of Solution Sodium Ascorbate is 1 cc., equivalent to 100 mg. ascorbic acid. (One clinician reports giving as high as 10,000 mg., 10 grams, intravenously in a single dose to an adult.) The Squibb leaflet on this product gives suggested dosages in infantile scurvy, severe adult scurvy, capillary fragility and surgical patients.

BULLETIN BOARD

PRESIDENT'S MESSAGE

There is no one who is more familiar with the history and traditions of our Society and who has done more for its welfare than Dr. Hubert Royster. Therefore any recommendations which he makes should carry tremendous weight.

With his permission I am publishing a letter recently received from him.

F. WEBB GRIFFITH, M. D.

September 25, 1941

Dr. F. Webb Griffith
President of the Medical Society of the State of N. C.
Asheville, N. C.

My dear Webb:

Ever since your induction into the office of President, it has been my intention to write to you. As a former president of the Society and present chairman of the surgical section, I take the liberty of making some suggestions in regard to the proceedings of our next meeting.

My first thought is that we should go back to our former custom of a full three-days' session of the Society itself. Before the arbitrary reduction to a two-day meeting (by what authority I know not), we met on Tuesday, Wednesday and Thursday of the week appointed, and held six full sessions with two night programs, giving ample opportunity for the reading of papers, the enjoyment of social features and the transaction of business. The abbreviation seems to have been brought about following the Asheville meeting in 1923. Since that date we have been allowed only two days for the meeting of the Society proper, if we can count Wednesday afternoon, which at our last annual session consumed exactly twenty-five minutes!

The most unfortunate result of our curtailed program is the neglect of the scientific sections. After all, the reading of papers with their discussions, is the paramount object of our Society and the one which should be stressed above any other. Under the present procedure only one-half day is allotted for each section, whereas two sessions of a half-day, morning and afternoon should be given to all of them. In former times, with a three-day meeting, this was easily accomplished. The two-session plan would encourage our own members (who must always be preferred to any outside talent) in greater numbers to contribute papers to their State Society. Many of these cannot now get on the Sectional programs under the one-session method. And remember that at the Greensboro meeting in 1915 a resolution was adopted, "that all invitations to physicians not members of this Society to appear upon the program in any meeting must be extended through the President!"

My second suggestion concerns the autonomy of the State Society. The Society is, and should be, supreme. All subsidiary organizations, specialty groups and independent associations, which may have a place on our programs, must conform to the order and rules of the parent Society, of which we are all component members. Without question, you and the rest of us will welcome every single doctor in the state who may wish to participate in the work of our Society, and will co-operate in any way with every group connected with organized medicine. These separate groups, however, should understand that they have been formed from time to time under the auspices of the State Society and that their primary allegiance is to the mother organization.

The most important of our subsidiary units is the State Board of Health. No one could possibly have a higher regard and respect for this efficient department than I have. I am not of it, but I am for it, and with it in every move it makes, and has made, for the betterment of our state and the advancement of our profession. For the whole country its organization is a model. Public health and preventive medicine constitute a major part of the medical scene and engage the time of a large number of our Society members. The State Health Officers Association, composed, I believe, entirely of the officials of the State Board of Health, and the county and district full-time health officers, for many years has held its meetings on Monday preceding the State Society session, consuming the whole day. There is also a section on public health and education on the program of the State Society. In addition there is provided a conjoint session of the State Board of Health with the State Society, which must have a place, taking up a considerable portion of time at a busy point in the Society's schedule.

There could be no valid objection to taking this overwhelming dose of public health medicine, unless it should interfere with the regular program of the inclusive State Society. The Health Officers Association is free to meet where and when it pleases. Its Monday session has been fostered and welcomed by the officials of the larger organization and will be at all times, whether it convenes before or after the Society meeting. The only demurrer I should enter is that following their Monday meeting some, or many, of their members may leave and not take part in the Society proceedings. If they should meet after the Society meeting, a number might not remain to attend the Health Officers' meeting. If my opinion were asked, I would say frankly that the health officers could better hold their meeting at another time during the year and thereby secure a bigger attendance both for themselves and the State Medical Society.

As for the conjoint session, when the provision was enacted in 1893, it served a useful purpose. In the old days it furnished the only opportunity of conveying public health information to the doctors from all over the state and brought the organization into direct contact with the profession, and indirectly with the people. The time has gone long since when such a conference is necessary, what with the full-time local health officers, the **Bulletin** and other literature, and the helpful visits and talks of the State Health officials in every part of the commonwealth.

Without prejudice I offer the alternative of (1) doing away with the conjoint session or (2) combining it with the Section on Public Health and Education. In the latter event, the conjoint session could be held at the afternoon meeting of the health section, if the doubling of the time for section meetings be approved.

Please understand, Webb, that I have made these suggestions in no spirit of adverse criticism of any individuals or groups or associations, but solely "for the good of the order."

Cordially yours,
HUBERT A. ROYSTER, M.D.

News Notes From the State Board of Health

The State Board of Health, meeting in Raleigh, unanimously passed a resolution endorsing Dr. Carl V. Reynolds' effort to suppress the spread of venereal diseases through the suppression of prostitution.

The resolution, which declared Dr. Reynolds' efforts to represent the fixed policy of the Board on this subject, was recorded in the minutes as follows:

"Resolved, at the meeting of the State Board of Health in Raleigh, September 12, 1941, that the Board endorse the policy of its Secretary, Dr. Carl V. Reynolds, in his efforts to suppress venereal disease and prostitution not only around the military areas in North Carolina but also among the civilian population. Venereal disease control in North Carolina is a public health program and it is the fixed policy of the Board to give all of its efforts to the improvement of this situation. We feel that progress is being made, and we assure Dr. Reynolds of our full cooperation in the continuance of this program."

* * *

Law enforcement officials representing the eight North Carolina counties in the fall army maneuvers area met in Rockingham Monday, September 22, to hear an address by Professor Albert Coates, of Chapel Hill, Director of the Institute of Government.

The meeting was sponsored by the North Carolina State Board of Health. Public health laws in relation to the maneuvers area was the dominant theme.

* * *

The August toll of 145 deaths from preventable accidents in North Carolina brought the total for the year so far to 1,144, as compared with 810 during the corresponding period of 1940, reports compiled by the State Board of Health's Division of Vital Statistics show. The increase for the month was 25. While a substantial majority of these deaths resulted from automobile accidents, August, with its torrid weather, was marked by 30 drownings in North Carolina, compared with 23 in August 1940. But the State so far this year has been free from deaths from airplane accidents.

The rising birth rate that has characterized 1941 has been accompanied by an increase in infant mortality. There were 431 such deaths reported in August, as compared with 385 in August last year, while births last month totaled 7,370, against 7,173 in August, 1940.

Maternal deaths, however, showed a continued decline, with 35 reported last month, as compared with 40 the corresponding month last year. Deaths resulting from diarrhea and enteritis have shown an increase this summer. There were 141 last month. The total for August, last year, was only 97.

August births brought the year's total in North Carolina so far to 56,623, an increase of 3,294 over the first eight months of 1940, during which time infant deaths totaled 3,520, an increase of 403 over the corresponding period in 1940, while maternal deaths showed a decline of 45.

No deaths occurred last month as the result of poliomyelitis, commonly known as infantile paralysis, but there were four deaths from tetanus, or lockjaw. Typhoid fever claimed one victim, compared with 6 in August, 1940, while there was one death from undulant fever. None occurred in August last year. But there was a sharp upturn in deaths from whooping-cough, the August, 1941, total having been 21, as compared with 6 a year ago. Malaria fatalities numbered 3. In August last year they numbered 11.

News Notes From the University of North Carolina

Dr. B. F. Kingsbury, formerly Professor of Histology at Cornell University, will be Guest Professor in the Department of Anatomy for this year.

* * *

The Josiah Macy Jr. Foundation has announced the continuation of a grant for research in the Department of Pharmacology to assist Dr. MacNider in his continued study of the aging process.

* * *

In order to correlate better the various medical activities at the University a new Division of Medical Sciences has been established. This Division, recommended by President Graham and approved by the Executive Board of Trustees, is composed of the School of Medicine, the Public Health School, the Tri-County Health Department and the University Health Service. Dr. W. R. Berryhill was appointed Dean of the School of Medicine and Chairman of the new Division.

* * *

Thirty students who completed the second year in medicine last June and who were awarded certificates in medicine have been transferred as follows:

Thomas H. Holmes of Weldon, N. C., and Ernest Yelton of Rutherfordton, N. C., to Cornell University.

John D. Hoyle, of Lawndale, N. C., and A. B. Dickson, of Raeford, N. C., to George Washington University.

Robert M. Hall, of Raleigh, and J. A. Taylor, of Oxford, N. C., to Harvard.

Miss Rowena Sidbury, of Wilmington, N. C., to Johns Hopkins.

Messrs. E. A. Erwin, of Laurinburg, N. C., Frank Nifong, of Winston-Salem. N. C., Ernest C. Richardson, of New Bern, N. C. and Clark Rodman, of Washington, N. C., to Jefferson Medical College, in Philadelphia.

Mr. Lawrence F. Cruze, of Powell Station, Tennessee and Mr. G. E. Gutmann, of Chapel Hill, N. C., to the University of Louisville.

To the University of Maryland: M. L. Aderholt, of Lexington, N. C., W. R. Jenkins of Franklinton, N. C., Robt. F. Keadle, of Mapleville, Maryland and O. W. Williamson, from Wilmington, N. C.

Miss Lois Frayser, of Richmond, Virginia, to the University of Michigan.

Mr. J. W. McLean of Godwin, N. C., and Fred L. Tunick of Brooklyn, N. Y., to New York University.

To the University of Pennsylvania: Gus E. Forbes, of Greenville, N. C., Jack Hughes of Tabor City, N. C., Asa R. Parham, of Henderson, N. C., and C. L. Pressly, of Statesville, N. C.

Mr. R. G. Rosser, of Vass, N. C., to the Medical College of the State of South Carolina.

John B. Riggsbee, of Pittsboro, N. C., to Vanderbilt University.

To Washington University, in St. Louis: Leslie W. Rose, of Rocky Mount, N. C., Foyell P. Smith, of Lexington, N. C., C. G. Watkins, of Wilmington, N. C., and R. M. Wheeler, of Sanford, N. C.

* * *

On September 2 and 3, 1941, Dr. William L. Fleming gave lectures on syphilis and pregnancy and congenital syphilis in the U. S. Public Health Service Postgraduate Training Course in the Management of Venereal Diseases at Hot Springs, Arkansas.

An intensive course in venereal disease control was conducted during the period September 15-19, 1941, at the School of Public Health by Drs. Wm. L. Fleming and John J. Wright. Guest speakers included Major Paul Padget, Venereal Disease Control Officer at Fort Bragg; Dr. J. C. Knox, Director of the Division of Epidemiology of the N. C. State Board of Health, and Mr. Albert Coates, from the Institute of Government. This course was attended by ten sanitarians from health departments in various sections of the state. Following the course they were sent into the areas of the state used for maneuvers and troop recreation for special work in venereal disease control during the maneuvers of the First Army in North and South Carolina in October and November, 1941.

News Notes From the Bowman Gray School of Medicine of Wake Forest College

The Bowman Gray School of Medicine of Wake Forest College began its first year of instruction on September 10, 1941. Seventy-two students were registered, 43 students in the first-year class and 29 in the second-year class. The formal opening exercises of the school were held in the amphitheater on the night of September 11, 1941. At that time, announcement was made of the establishment of the Bowman Gray Institute of Medical Research, which will operate as an integral part of the school. This establishment was made possible through the generosity of Mrs. Benjamin F. Bernard, who gave to the school a group of buildings occupying the southwest corner of the Bowman Gray Estate. Plans have been completed and work will begin immediately on transforming these buildings into research laboratories.

* * *

Dr. Tinsley R. Harrison, Professor of Medicine at the Bowman Gray School of Medicine of Wake Forest College, was the speaker for the annual postgraduate course in heart disease sponsored by the Kansas Medical Society and the Kansas Heart Association. The course was held in Emporia, September 29-October 2. Dr. Harrison is also scheduled to speak on October 24, at the New York Academy of Medicine Annual Graduate Fortnight. His subject will be "Effects of Renal Extracts on Hypertension".

* * *

Dr. Howard Bradshaw, Professor of Surgery, will take part in a panel discussion on Spinal Anesthesia at the meeting of the American College of Surgeons in Boston November 3-7. Dr. Bradshaw will discuss the merits of continuous spinal anesthesia.

* * *

Dr. Arthur Grollman, Research Professor of Medicine, and Dr. Tinsley Harrison, Professor of Medicine, spoke at the Piedmont Postgraduate Clinical Assembly of Anderson, S. C., on September 10. Dr. Grollman's subject was "Some Practical Aspects of Endocrinology". Dr. Harrison spoke on "Cardiovascular Emergencies".

News Notes From the North Carolina Tuberculosis Association

The Wayne County Commissioners have recently allotted funds for the construction and maintenance of a sixteen bed tubercular sanatorium. The local Tuberculosis Association plans to furnish the building with beds and linen.

The Southern Tuberculosis Conference

The twenty-seventh annual meeting of the Southern Tuberculosis Conference took place in Asheville, September 15-17, and, under the able presidency of Dr. Frank Carman of Dallas, Texas, should be classed as a definite success. Over three hundred were in attendance.

Your reporter, being a medical man, is not in a position to pass upon the proceedings of the sociological meetings. The Conference is equally divided between Medical and Non-Medical Sections, meeting cotemporaneously and each equally attended. Your reporter can testify to the great interest shown by those gathered in the Non-Medical Section. However, he saw them "through a glass, darkly"—but he met the Medical Section "face to face". His verdict as to its interest and accomplishments can be summed up in the famous words of J. Caesar (slightly distorted): "Veni, vidi, victus sum." Your reporter has attended many meetings of the Southern Tuberculosis Conference and has always believed them to be about the best agglomerations of tuberculosis enthusiasts that he has met. This last conference interposed no objection or exception to the above-formulated statement.

The X-Ray Clinic, to which men bring their uninterpretable and their "trick" films, was a two-hour delight. Dr. Paul Turner of Louisville (who, if Clifton Fadiman of "Information Please" fame suddenly passed out of the picture, should certainly be drafted for the job) conducted the informal open forum with inimitable wit and savoir faire—stimulating, criticizing, wisely and humorously guiding, never at a loss to praise or ridicule, always in that kindly vein that has made him beloved by all in the five years that he has voluntarily assumed the role of interlocutor. The X-Ray Clinic was, as always, a huge success; it constitutes a most original section in the Southern Tuberculosis Conference, a section which, insofar as your reporter knows, is not to be duplicated anywhere.

The banquet on Monday night, September 15, was attended by 287 persons. Good speeches were made and listened to with attention. The high light of the evening, in a humorous sense, was reached when Dr. J. D. Riley of Booneville, Arkansas, being rather fulsomely introduced by Dr. Ringer, who was presiding, told an apt story, the point of which was that it was quite extraordinary how far a little bull would go!

To your reporter, the scientific peaks of the conference were two in number; namely, the lecture on Monday afternoon by Dr. H. C. Sweeney of Chicago on "The Relationship of Pneumoconiosis to Tuberculosis, and the "Summarization" of Dr. Frank S. Dolley of Los Angeles, California, which followed three papers on surgical procedures employed in the treatment of pulmonary tuberculosis. Dr. Sweeney gave a fascinating analysis and description of silicosis, silico-tuberculosis, and allied conditions, illustrating his points with charts, diagrams and photomicrographs, the result being a complete whole which was as satisfying intellectually and scientifically as its presentation was sequential and dramatic.

Dr. Dolley reviewed surgical measures in the management of pulmonary tuberculosis, dwelt upon indications, procedures, complications, pitfalls, and times to "stay out"; he also dwelt, one might almost say, upon the philosophy of treatment and evidently felt that pulmonary tuberculosis was by way of becoming a surgical disease—a conclusion with which some of his auditors did not feel able to agree. Be that as it may, his talk was full of

good points, apt examples and logical deductions. After all, it is only from the free discussion of controversial matters that true advance results.

In short, the Southern Tuberculosis Conference was a real achievement. Those attending it felt that they had been present at one of the best tuberculosis meetings held annually in this country, and left Asheville full of enthusiasm for the organization, its aims and its program; and keen with anticipation for next year's gathering in Memphis, Tennessee.

North Carolina Eye, Ear, Nose and Throat Society

The North Carolina Eye, Ear, Nose and Throat Society held its seventh annual meeting in Goldsboro September 24 and 25. Dr. B. E. Ellis, Assistant Professor of Otolaryngology at the University of Indiana, and Dr. LeGrand H. Hardy of New York were the speakers for the two scientific sessions. At the morning session, September 25, Dr. Ellis spoke on "Facial Nerve Injuries and Their Repair" and Dr. Hardy gave an "Evaluation of Orthoptic Training". At the afternoon session Dr. Ellis' subject was "The Treatment of Intranasal Tumors" and Dr. Hardy spoke on "Color Vision".

At the business meeting held on September 25 Dr. H. C. Wolfe of Greensboro was elected president; Dr. J. H. Fitzgerald of Smithfield was elected vice president; and Dr. V. F. Couch of Winston-Salem was reelected secretary-treasurer. This year's officers were Dr. Milton R. Gibson of Raleigh, president; Dr. T. C. Kerns of Durham, vice president; and Dr. V. F. Couch, secretary-treasurer.

Sixth District Medical Society

The Sixth District Medical Society met at the Tar Heel Club in Raleigh on September 18 at 3 p. m., Dr. G. S. Coleman, president of the Wake County Medical Society, presiding. Following the invocation by Dr. S. L. Stealey and the Address of Welcome by Dr. Verne S. Caviness, the following scientific program was presented:

Toxemia of Pregnancy—A Fifteen-Year Follow-Up Study—Dr. Ivan M. Procter, Raleigh.

Hypertension: Some Recent Advances—Dr. Tinsley R. Harrison, Professor of Medicine, Bowman Gray School of Medicine of Wake Forest College, Winston-Salem.

The Heart in Hypertension—Dr. George E. Mackie, Wake Forest.

Relation of Anomalies of the Renal Vessels to Kidney Disease—Dr. John S. Rhodes, Raleigh.

Recent Advances in Sulfonamide Therapy — Dr. Jerome S. Harris, Durham.

The Diagnosis and Treatment of Acute Surgical Diseases of the Upper Abdomen—Dr. Herman Max Schiebel, Durham.

At the business meeting following the program, the following officers were elected: Dr. Verne S. Caviness, Raleigh, president; and Dr. John Hunter, Cary, vice-president. The secretary and treasurer are to be appointed by the president. This year's officers were Dr. Oscar S. Goodwin, president; Dr. Verne S. Caviness, vice president; Dr. Earl W. Brian, secretary-treasurer. Dr. George L. Carrington is councilor of the Sixth District.

Dinner was served at 6:30.

Ninth District Medical Society

The Ninth District Medical Society met in Statesville at the Vance Hotel on September 25 at 3 p. m. After the meeting was called to order by Dr. I. E. Shafer, District Councilor, Dr. Harry Gamble gave the invocation. The Address of Welcome was given by Dr. M. B. Clayton, Dr. J. R. Terry responding. After the election of officers and the Memorial Service held by Dr. T. V. Goode, the following program was presented:

The Plasma Protein—Its Physiology Relative to the Normal and Failing Circulation—Dr. F. B. Marsh, Salisbury.

Blood Plasma — Technical Discussion — Dr. John Elliott, Salisbury.

Etiology and Classification of Hypertension—Dr. John R. Williams, Winston-Salem.

The Protection of the Soldier Against Communicable Disease—Capt. John W. R. Norton, Fort Bragg, N. C.

Discussion:

Dr. James W. Davis, Statesville.

Dr. C. W. Armstrong, Salisbury.

The Procurement of Medical Officers for Active Duty in the Army—Major R. C. Tatum, Headquarters, First Military Area, Knoxville, Tenn.

Modern Concepts of Vitamin Therapy — Dr. D. Frank Milam, Durham.

Dr. James W. Davis was toastmaster for the dinner at 7:30 p. m. A motion picture on "Intravenous Anesthesia" was shown and the guest speaker, Dr. L. G. Beall of Black Mountain, was heard.

Officers elected for 1942 were Dr. S. A. Rhyne, Statesville, president; Dr. Douglas Hamer, Jr., Lenoir, vice president; and Dr. J. Sam Holbrook, Statesville, reelected secretary-treaurer.

This year's officers were Dr. W. D. McLelland, Mooresville, president; Dr. S. A. Rhyne, vice president; and Dr. J. Sam Holbrook, secretary-treasurer.

Forsyth County Medical Society

The Forsyth County Medical Society met in Winston-Salem on September 9. Dr. J. F. O'Neal, Assistant in Sugery at the Bowman Gray School of Medicine of Wake Forest College, spoke on "The Introduction of Fluids Into the Body by Way of the Bone Marrow".

Halifax County Medical Society

The Halifax County Medical Society held its regular monthly meeting Friday night, September 12, at the Roanoke Rapids Hospital.

Resolutions of respect to the late Dr. Thomas Williams Mason Long, written by Dr. B. M. Nicholson of Enfield, were presented to the society.

The guest speaker of the meeting was the distinguished Dr. Dean Cole of Richmond, Virginia, who presented a paper on "The Role of the General Hospital in Community Control of Tuberculosis."

Mecklenburg County Medical Society

The Mecklenburg County Medical Society resumed its semi-monthly meetings in September. On September 2 Dr. T. C. Bost presented a case report, Dr. Tom Byrnes gave a paper on "Pin-Worm Infestation of the Appendix", and Dr. Julian Jacobs spoke on "Padgett's Skin Grafting". On September 16, a "Review of Functions of the Frontal Lobes", with case report, was given by Dr. Archie Barron. Dr. Lester Todd spoke on "Allergenic Excitants in Pneumococcic Colds".

The Duke Symposium

A Symposium on Problems of Civil and Military Emergencies sponsored by the Duke University School of Medicine and Duke Hospital will be held October 16, 17, and 18 in the Page Auditorium on the West Duke Campus. The program of this Symposium appeared in the September issue of the **North Carolina Medical Journal.**

North Carolina Neurological and Psychiatric Association

The North Carolina Neurological and Psychiatric Association will meet Friday, October 24, at the State Hospital at Morganton, at 2 p. m. The following program will be presented.

1. Shock Therapy
   1. Metrazol Therapy—Drs. R. H. Long and J. R. Saunders, State Hospital, Morganton.
   2. Insulin Therapy—Dr. Otto Billig, Highlands Hospital, Asheville.
   3. Electro-Therapy — Drs. Griffin and Griffin, Appalachian Hall, Asheville.

      Discussants:

      Drs. J. G. N. Cushing and Mary Cushing of Pinebluff Sanatorium and Dr. Hans Lowenbach of Duke Hospital.
2. Changing Trends in Therapy—Dr. John A. Rose, Bowman Gray School of Medicine, Winston-Salem, N. C.
3. Encephalitis — Dr. Paul Kimmelstiel, Charlotte Memorial Hospital, Charlotte.
4. Deficiency Diseases of the Nervous System—Dr. Leo Alexander, Duke Hospital, Durham.
5. Business meeting.
6. Social Hour. Hosts: Dr. F. B. Watkins and Staff of State Hospital.
7. Dinner.
8. Round Table Discussion of Neurological and Psychiatric Examinations of the Draftees. Led by Dr. J. C. George, U. S. M. C., Asheville, and Dr. L. G. Beall, Black Mountain.

Officers of the Society are Dr. Archie A. Barron, Charlotte, president; Dr. F. B. Watkins, Morganton, vice president; and Dr. Burke Suitt, Durham, secretary and treasurer. All doctors are invited to attend this meeting. Those planning to come should notify Dr. F. B. Watkins, Superintendent, State Hospital, Morganton.

Annual Scientific Assembly

The Annual Scientific Assembly will be held in Washington, D. C., September 30- October 2, at the Mayflower Hotel. The program this year will be devoted to Current Problems in General Medicine.

American Academy of Ophthalmology and Otolaryngology

Sir Harold Delf Gillies, one of Great Britain's leading plastic surgeons, who is now in charge of special units for the repair of facial injuries in the London area, is to be a guest of the American Academy of Ophthalmology and Otolaryngology national organization of eye, ear, nose and throat specialists, when it meets in Chicago at the Palmer House, October 19-23.

Sir Harold will address a special defense program presented by the Academy on Monday evening October 20.

Military Surgeons Meeting

The Association of Military Surgeons of the United States will meet October 29-November 1 at the Brown Hotel, Louisville, Ky.

All members of the medical profession are invited to attend as guests and it is particularly hoped that as many members of the Medical Defense Committees as possible will come.

American Conference on Industrial Health

Under the auspices of the American Association of Industrial Physicians and Surgeons the American Conference on Industrial Health will hold its Second Annual Meeting on November 5 and 6, 1941, at Chicago Towers, Chicago, Illinois. This organization maintains a public forum for all who are interested in the prevention of disease, injury and disability in industry, and the active supervision and promotion of health in industrial groups.

The opening session will be a symposium on the technical problems of industrial health on the basis that health supervision in industry involves two great principles: (1) the adjustment of the working environment to the employee; and (2) the adjustment of the employee to the working environment, including also the human environment. The technical problems are the result of the application of these principles, and run the whole gamut of public health as applied to industry.

The afternoon session will be a symposium on the economics of industrial health, including: (1) organization and cost of a health service, and (2) discussion on the value of industrial health service to the employer, the employee and the public.

The morning of the second day will be given over to a symposium on the social implications of industrial health, discussing how far an industrial health service should go; are hospital and medical care plans related to industrial health service in any practical way; does legislation play a part in this problem; and the evaluation of labor turnover, spoilage, and lack of trained men, together with the experiences of management and the interests of insurance carriers in the medical and social problems presented.

The sessions will close with a schedule of plant medical department inspections, by special arrangements with local industries.

Change in Spelling

A change in the spelling of the name "Petrolagar" to "Petrogalar" has been announced by the Petrolagar Laboratories. The change is being made in both the product name and corporate name.

Company officials, while pointing out that the adoption of the new spelling does not affect the formula or quality of the product in any way, said that they considered the change advisable to avoid any possible misconception as to the nature of the product.

"Because it has never been the intention of the company to imply that agar-agar was used for any other purpose than as an emulsifying agent, the last syllable of the former name has been altered in favor of the new spelling," officials said.

Officials emphasized that no change has been made in the size of the package, price, or formula and that each of the five different types of the product will carry the new spelling "Petrogalar". The new corporate name is: Petrogalar Laboratories, Inc., and the address remains, 8134 McCormick Boulevard, Chicago, Illinois.

Rejections at the Induction Station, Fort Bragg

The principal causes for rejection of the draftees from North Carolina examined during August were as follows:

	White	Colored	Total
Total Examined	2294	701	2995
Total Rejected	228(9.9%)	129(18.4%)	357(12.25%)
1. Venereal Disease	9	59	68
Gonorrhea	(7)	(54)	(61)
Chancroid	(1)	(3)	(4)
Lues	(1)	(2)	(3)
2. Pes Planus	24	25	49
3. Insufficient Vision	36	6	42
4. Varicose Veins	20	0	20
5. Insufficient Teeth	16	3	19
6. Otitis Media	12	3	15
7. Hernia Inguinal	5	7	12
8. Lung (X-ray)	8	3	11
9. Pilonilal Cyst	11	0	11
10. Underweight	6	2	8
11. Miscellaneous	81	21	102

Civilian Defense

According to a joint statement issued on September 4 by the U. S. Director of the Office of Civilian Defense, F. H. LaGuardia, and the Chairman of the American National Red Cross, Norman H. Davis, State and local defense councils are the official agencies responsible for the coordination of all available resources which may be required for civilian protection in the event of belligerent action. Defense Councils should therefore acquaint themselves with the resources of the local Red Cross Chapters in providing food, clothing, shelter, nursing care, transportation, and other basic necessities and should integrate them into the comprehensive local program. Duplication of trained and experienced personnel and of available supplies of the Red Cross should be avoided except where supplementation is essential to meet the anticipated needs of the community.

* * *

The first of a series of pamphlets outlining medical provisions for civilian defense, designed for the organization of emergency medical field units, entitled "Emergency Medical Service for Civilian Defense" Bulletin No. 1, was issued recently by the Office of Civilian Defense.

The Bulletin outlines in considerable detail a basic plan for the organization and expansion of hospital facilities along both seaboards and in industrial areas in the interior. It also outlines plans for the rapid expansion of nursing facilities through intensive training of adequate numbers of Volunteer Nurses' Aides and other nursing auxiliaries.

The Bulletin was prepared by the Medical Division of the Office of Civilian Defense, of which Dr. George Baehr, Medical Director, U. S. Public Health Service, is Chief Medical Officer, and the Medical Advisory Board, of which he is chairman. It will be distributed by State Councils of Civilian Defense to local Directors of Civilian Defense.

American Board of Obstetrics and Gynecology

The written examination and review of case histories (Part I) for Group B candidates will be held in the various cities of the United States and Canada on Saturday, January 3, 1942, at 2 p. m. Formal notice of the place of examination will be sent each candidate several weeks in advance of the examination date. No candidate will be admitted to examination whose examination fee has not been paid at the Secretary's Office. Candidates who successfully complete the Part I examination will proceed automatically to the Part II examination held in June 1942.

Candidates for reexamination in Part I (written paper and submission of case histories) must request such reexamination by writing the Secretary's Office not later than November 15, 1941. Candidates who are required to take reexaminations must do so before the expiration of three years from the date of their original examination.

The general oral and pathological examinations (Part II) for all candidates (Groups A and B) will be conducted by the entire Board, meeting at Atlantic City, N. J., in June 1942, immediately prior to the annual meeting of the American Medical Association.

Application for admission to Group A, Part II, examinations must be on file in the Secretary's Office not later than March 1, 1942.

As previously announced in the Board booklet, this fiscal year (1941-1942) of the Board marks the close of the two groups of classification of applicants for examination. Thereafter, the Board will have only one classification of candidates, and all will be required to take the Part I examinations.

For further information and application blanks, address Dr. Paul Titus, Secretary, 1015 Highland Building, Pittsburgh (6), Pennsylvania.

"Pay-Your-Doctor-Week"

Fourth annual "Pay-Your-Doctor-Week" will be observed this year November 2 to 8.

Inaugurated in 1938 by California Bank in Los Angeles, observation of "Pay-Your-Doctor-Week" swiftly spread to scores of cities throughout the country and last year virtually achieved nation-wide recognition.

Primary purpose of "Pay-Your-Doctor-Week" is to pay tribute to the members of the healing profession who quietly but relentlessly continue the battle against disease and sickness, particularly at this time when much of the world is engaged in destroying rather than preserving life.

Recognized also is the fairly widespread tendency to "let the doctor wait" until all other bills have been paid.

Sponsors of "Pay-Your-Doctor-Week" point out that the plight of the country doctor who is often paid with farm products or a share in next year's crop has been widely publicized in recent years while little has been said about the city doctor whose reward for services rendered all too frequently consists mainly of long hours of practice and vague promises of payment sometime in the future.

Because "Pay-Your-Doctor-Week" was originated and is sponsored by the banking profession, the question of medical ethics is not involved.

Banks sponsoring the week throughout the country call attention to the fact that funds are available to lend for the purpose of paying doctor bills.

News Notes

Several North Carolina doctors took part in the program of the Southern Tuberculosis Association meeting, held in Asheville September 15, 16, and 17. The following doctors presented scientific papers: Dr. E. J. Chapman, Dr. J. T. Saunders, and Dr. Julian Moore of Asheville, and Dr. Robert Reeves of Durham. At the banquet Monday night, presided over by Dr. Paul H. Ringer of Asheville, Dr. P. P. McCain gave the Address of Welcome and Dr. C. W. Armstrong, of Salisbury, President of the North Carolina Tuberculosis Association, brought greetings.

* * *

Dr. George M. Leiby, formerly consultant for the Division of Epidemiology of the North Carolina State Board of Health, and for the past year Director of the Bureau of Venereal Disease of the District of Columbia Health Department, has resigned to become Assistant Health Officer of the Louisiana State Health Department.

* * *

Dr. C. N. Herndon, formerly of Charlotte, is now at Heredity Clinic, University of Michigan, Ann Harbor.

* * *

Dr. John Webster McGehee of Reidsville died suddenly September 23 in Reidsville. It is believed that death was due to a heart attack.

* * *

Lt. Roy F. Roberts, M. C., formerly of Asheville, now at Camp Shelby, Mississippi, was married to Miss Lois Batson of Avera, Mississippi, on October 5, 1941.

Cross Section Anatomy Slides in Kodachrome

New, life-colored Kodachrome Lantern Slides from cross section studies of the entire human body by Morton, Truex, and Kellner, of the Department of Anatomy, Columbia University, are now available, on order, from Professional Research Products, Inc., 2929 Broadway, New York, New York.

These Kodachrome lantern slides were designed primarily to serve as an essential part of an improved method of teaching Cross Section Anatomy.

The photographic reproductions are made from wax models, casted with utmost fidelity from the actual cross sections of carefully selected and prepared bodies. The impressions are so accurate that not only the smallest structures, but also the texture of the tissues are registered in the models. These are reproduced in the slides in the natural life-like color of freshly cut tissues.

In addition to medical schools, the slides should be of particular interest to surgeons, roentgenologists, students, lecturers and others interested in anatomy.

"Depression or No Depression, War or No War"

Since 1930, month after month, a unique series of educational-to-the public advertisements have appeared on the first page of **Hygeia**. The sponsor's name, Mead Johnson & Company, has to be looked for with a magnifying glass, and appears only for copyright purposes. Not a product is ballyhooed. Instead, appears good, clean, convincing reasons, with choice illustrations, why mothers should seek pediatric advice from their physicians.

AUXILIARY

AUXILIARY PROGRAM FOR THE YEAR

As the JOURNAL goes to press the Board of Directors of the Auxiliary to the Medical Society of the State of North Carolina is making preparations for its Fall meeting. The Board members will be guests of the organizing and honorary president, Mrs. P. P. McCain, at her home at Sanatorium on October 1 for an all-day gathering and luncheon. Officers, committee chairmen and councillors will complete plans for the season's activities.

The State Auxiliary program for the year 1941-42 will emphasize organization, programs, *Hygeia*, legislation, public relations, national defense, student loan fund, McCain Bed at Sanatorium, Martin L. Stevens Bed at Western Sanatorium, the McCain Endowment Fund, the Jane Todd Crawford Memorial, observance of Doctors' Day, and research.

The organization work for the year is already under way. The Councilors in the ten medical districts of the state have received their instructions, and letters have gone out to the presidents of county medical societies having no organized auxiliaries, asking the authorization and appointment of county organizers. This effort to increase the number of county auxiliaries has received the support of Dr. F. Webb Griffith, president of the State Medical Society, who has urged the endorsement of the new groups to the county presidents. Favorable reports are already coming in from this work, and a more complete picture will be available after the Councilors present their plans to the Board of Directors on October 1.

Organization work is under the direction of Mrs. Clyde R. Hedrick of Lenoir, first vice president and chairman of organization, and immediate past state president of the Auxiliary. Through her, the Auxiliary will also stress monthly meetings for the county organizations, planned programs on *medical and health* subjects with authorized speakers, and cooperation with the advisory councils from the component county medical societies.

National Defense

The Auxiliary has expanded its state program this year to include national defense.

It has been said that "Health is our first line of defense." Women are now looking to doctors' wives for leadership in health education for national defense, and the Auxiliary will meet this responsibility by urging its members to a comprehensive study of nutrition, first aid, and other home defense measures.

Further, the Auxiliary will cooperate with the Medical and Surgical Relief Committee of America, a war relief agency engaged in collecting medical instruments and supplies and directing them to the sources most urgently in need. This agency has the endorsement of the State Medical Society. The important national defense chairmanship has been assumed by Mrs. Thomas Leslie Lee of Kinston.

Other Activities

The Auxiliary will also advocate an expanded study of medical legislation, with particular attention to the National Health Act; the building of good will for the profession through its public relations department; increased distribution of *Hygeia;* reading of prescribed literature, including the *Bulletin* of the National Auxiliary, *Hygeia,* the editorial and Auxiliary pages of the NORTH CAROLINA MEDICAL JOURNAL, the editorial pages of the *Journal of the American Medical Association,* the Handbook for State Auxiliaries and the Minutes and Transactions of the State and National Auxiliaries.

The philanthropies of the State Auxiliary have a lasting appeal to doctors' wives in North Carolina. Through their contributions two beds are maintained for tubercular patients at the State Sanatorium and the Western Sanatorium at Black Mountain—the McCain and Stevens Beds. Patients occupying these beds have established the cheerful tradition of returning to sound health. It is the hope of the Auxiliary that the Endowment Fund and the Student Loan Fund will continue to grow, even during the difficult year ahead.

In its association with the Southern Medical Auxiliary, the State Auxiliary will continue its contribution to the Jane Todd Crawford Fund for a permanent memorial in Kentucky, and research on the lives and work of eminent North Carolina doctors as its contribution to the medical annals of the State and the Southern medical lending library.

Board of Directors, 1941-42

With pride and appreciation, the State President announces the names of members of the Board of Directors of the Auxiliary to the Medical Society of the State of North Carolina for the season 1941-42. Some are new officers and chairmen who have come to the Board highly recommended; others are our beloved stand-bys, officers who have worked in the State Auxiliary since its inception and without whose sympathetic interest we could not exist.

To them all sincere gratitude is expressed for their willingness to serve, their eagerness to cooperate, their splendid spirit of fellowship. I commend them to the members of the Auxiliary throughout the state and congratulate the organization that its interests and causes are worthy of the services of these women:

Executive Board

Honorary President and Chairman of Past Presidents — Mrs. Paul Pressly McCain, Sanatorium.

First Vice President and State Chairman of Organization — Mrs. Clyde R. Hedrick, Lenoir.

Second Vice President and Chairman of McCain-Stevens Beds—Mrs. J. R. Terry, Lexington.

Third Vice President and Chairman of Student Loan Fund—Mrs. John S. Hooker, Chapel Hill.

Recording Secretary—Mrs. Harry Winkler, Charlotte.

Corresponding Secretary — Mrs. Joseph C. Knox, Raleigh.

Treasurer—Mrs. E. Clarence Judd, Raleigh.

President elect—Mrs. R. A. Moore, Winston-Salem.

Chairman of Advisory Council from the State Medical Society—Dr. Caroline McNairy, Lenoir.

Chairmen of Standing Committees

Program—Mrs. Joseph A. Elliott, Charlotte.

Public Relations — Mrs. Wingate Johnson, Winston-Salem.

Legislative — Mrs. J. Buren Sidbury, Wilmington.

Press and Publicity—Mrs. Verne Strudwick Caviness, Raleigh.

Bulletin—Mrs. Ben Kendall, Shelby.

Hygeia—Mrs. W. G. Byerly, Lenoir.

Memorial—Mrs. George W. Mitchell, Wilson.

Historian — Mrs. J. Roy Hege, Winston-Salem.

Exhibits—Mrs. Alfred A. Kent, Jr., Granite Falls.

Research—Mrs. Rigdon Dees, Greensboro.

Scrap Book—Mrs. Ben F. Royal, Morehead City.

Jane Todd Crawford Memorial—Mrs. Frederick R. Taylor, High Point.

National Defense—Mrs. Thomas Leslie Lee, Kinston.

Auditor—Mrs. R. S. McGeachy, New Bern.

Nominations—Mrs. George M. Cooper, Raleigh.

Convention—Mrs. Henry Sloan, Charlotte.

Councilor to Southern Medical Auxiliary—Mrs. J. Buren Sidbury.

State Councilors

First District — Mrs. Thomas L. Carter, Gatesville.

Second District—Mrs. K. B. Pace, Greenville.

Third District—Mrs. D. M. Royal, Salemburg.

Fourth District — Mrs. C. F. Strosnider, Goldsboro.

Fifth District — Mrs. William T. Rainey, Fayetteville.

Sixth District—Mrs. P. G. Fox, Raleigh.

Seventh District — Mrs. G. Aubrey Hawes, Charlotte.

Eighth District—Mrs. Edward T. Harrison, High Point.

Ninth District — Mrs. James W. Vernon, Morganton.

Tenth District—Mrs. D. I. Campbell King, Hendersonville.

* * *

As we begin our work for another year we would remind the wives of doctors throughout North Carolina that ours is an organization of service and education. In the words of the National president, "The time has come when poorly informed wives of doctors may do actual harm to the welfare of scientific medicine." It must be understood that your Auxiliary cannot imitate your various social and civic clubs in its programs; the Auxiliary is concerned *only* with medical and health interests. It must not deviate from this course. We would pass on, too, the counsel of that pioneering doctor's wife, Mrs. Samuel Clark Red of Texas, who twenty years ago founded the National Auxiliary: "Put your auxiliary duties next to those of family and religion."

MRS. SIDNEY SMITH,
State President.

September 19, 1941.

In Memoriam

Resolutions of Respect to Thomas Williams Mason Long

At the ancestral home in Northampton County, Thomas Williams Mason Long was born on the night of January 14, 1886. On February 3, 1941, during the session of the General Assembly, of which he was a member, he died at Rex Hospital in Raleigh.

His short span of fifty-five years was so filled with achievement that we pause now to recount his worth and to pay tribute to him, whose memory will be perpetuated as the years come and go.

Living the normal life of a boy, and perhaps with better environment than some of his associates, he reached young manhood. His early education consisted of training under a governess, at a private school, at an academy, at a polytechnical institute. Finally in 1903 he entered the University of North Carolina to study medicine. At this time he was almost 18 years old. He received the prescribed course at Chapel Hill, and then went to the University College of Medicine in Virginia, from which he was graduated in 1908. He received his license to practice medicine the same year. After serving his internship at the State Hospital at Petersburg, Virginia, and practicing a short time at Garysburg, North Carolina, he moved to Roanoke Rapids in 1910.

At that time Roanoke Rapids was infested with malaria to such an extent that conditions were alarming. Then it was that Dr. Long first gave himself in public service, for it was he who began the campaign which finally eradicated malaria in that section of the county. Two years later, in 1912, Dr. Long, Dr. E. H. Adkins, and Dr. H. C. Irvin founded the Roanoke Rapids Hospital. Dr. Long was made President of the Board of Directors, and served as president of that Board from 1912 to 1932. These two outstanding acts were only the forerunners of the service Dr. Long rendered to this county and state.

On September 6, 1941, at the Roanoke Rapids Hospital a memorial tablet was unveiled in his honor. Judge R. Hunt Parker, in his eulogy at the unveiling, said, "We are here this afternoon to unveil a tablet in honor of the best beloved man who has ever lived in this community."

The inscription on the tablet is: "In grateful memory of Thomas Williams Mason Long, M.D., January 14, 1886-February 3, 1941. A leader in the founding of Roanoke Rapids Hospital, and training school for nurses, and in the eradication of malaria in this community."

In 1915 he was elected Chairman of the City Board of Commissioners of Roanoke Rapids, and

served until the form of government was changed in 1922, when he was elected Mayor. He served in that office until 1930, which made a period of fifteen years at the head of local government. He also served as Trustee of Roanoke Rapids Graded School District from 1915 to 1930. As a member of the local governing body he advocated the incorporation of Roanoke Rapids and Rosemary into one city. These were two separate towns, but near enough together to be one. This incorporation was made, thereby resulting in cooperation between the two, and growth for both.

Along with the service he was rendering at home, he was serving his county and state as a public servant in his profession. He was a member of the County and State Medical Societies and of the American Medical Association, and was Secretary-Treasurer of the State Medical Society from 1937 to 1941. He was a director of the State Hospital from 1918 to 1920. He was Chairman of the Board of Directors of the North Carolina Sanatorium from 1922 to 1931, and was a member of the State Board of Medical Examiners from 1926 to 1932. In all these organizations he was liked for his manner as a man, and for his knowledge, foresight, and sagacity in the profession.

In 1931 Dr. Long was a member of the House of Representatives, going there as a chosen successor to Clement Kitchen, who had died after election and before serving. For the next session of the Legislature Dr. Long was elected to the Senate in 1933. He served in the Senate thereafter in 1937, 1939, and in 1941 until his death. He made an enviable record while in the Legislature. It was said by his colleagues and by a Lieutenant Governor that "Dr. Tom was the best loved member in that body." It was said by health authorities that "Dr. Long had sponsored health measures which placed North Carolina among the leading states in health laws." Dr. Long was instrumental in the passage of a bill appropriating $600,000 for the erection of a tubercular sanatorium in Wilson County. This sanatorium will be known as the Long Memorial.

In 1918 he joined the Episcopal Church, and became a vestryman in that church. He was a mason, belonging to the several bodies of the York Rite, and was also a member of the Junior O. U. A. M.

Dr. Long was married in 1910 to Maria Greenough Burgwyn, sister of Judge W. H. S. Burgwyn. To them were born five children. Their home life has been an example worthy of emulation by any family.

Tom Long—we loved him while he was here; we cherish his memory now that he is gone. His imperishable virtues will live on in the hearts of men who knew the real man.

To have had such a man among us was a joy, and to remember him is a privilege. He was a friend to mankind.

HALIFAX COUNTY MEDICAL SOCIETY.

BOOK REVIEWS

A Correction

In the review of Grollman's **Essentials of Endocrinology** which appeared in the September issue of the **North Carolina Medical Journal**, the name of the publisher was unintentionally omitted. This book is published by the J. B. Lippincott Company, Philadelphia, and contains 480 pages, with 74 illustrations. The price is $6.00.

Handbook of Communicable Diseases. By Franklin H. Top, A.B., M.D., M.P.H., Director, Division of Communicable Diseases and Epidemiology, Herman Kiefer Hospital and Detroit Department of Health, and Collaborators. 682 pages, with 73 text illustrations and 10 color plates. Price $7.50. St. Louis: C. V. Mosby Co., 1941.

The author has wisely solicited contributions from a number of capable collaborators, including nurses, and has allotted the greatest space to the most prevalent diseases — syphilis, tuberculosis, pneumonia, and gonorrhea. The diseases are grouped by the portal of entry into the body—for instance, the venereal diseases are included under contact diseases of the mucous membranes. In addition to chapters on the management of communicable diseases by the nurse in the home and hospital, suggestions for nursing care are found under discussions of specific diseases. Suggestions for treatment are sound, and the sulfonamides are recommended in proper perspective to other forms of therapy. Occasional annoyances such as dosage of one drug being given in grams and another in grains in the same paragraph crop up. Inevitable errors or oversights are found; for example, the incidences of trichinosis in autopsy material are quoted as 10-25 per cent, while published figures for North Carolina and Louisiana are 2.8-3.5 per cent. The illustrations, particularly those in color, are admirable, and are familiar to those who have seen Parke-Davis' **Therapeutic Notes**. The volume should prove extremely helpful to medical students and nurses, and is a "must" for public health officials and public health nurses.

Microbes Which Help or Destroy Us. By Paul W. Allen, Ph.D., Professor of Bacteriology, University of Tennessee; D. Frank Holton, Ph.D., Associate Professor of Bacteriology, University of Tennessee; and Louise Allen McBee, M.S., formerly Assistant in Bacteriology, University of Tennessee. 540 pages, with 102 text illustrations and 13 color plates. St. Louis: C. V. Mosby Company, 1941. Price, $3.50.

This book will serve with distinction the purpose for which it was intended. Written primarily for the layman, it brings in review most of the common communicable diseases which we are heir to, and presents them in a most interesting, easily read, and understandable manner. Through such books as a medium the public should become "microbe conscious", and as a result of such education and cooperation become a mighty force in the control of dangerous diseases. A wide variety of common diseases are adequately covered, and the reader is given a concept of the condition from many angles, but especially from the standpoint of prevention.

The authors admirably bring out the fact that not all microbes are dangerous. On the contrary, the majority are rather very helpful to human life. Life would be very different or impossible without these helpful bacteria. Many of the ways in which bacteria are beneficial are discussed.

The book is recommended for laymen and students. No doubt many members of the medical profession would also enjoy it and profit greatly by reading it.

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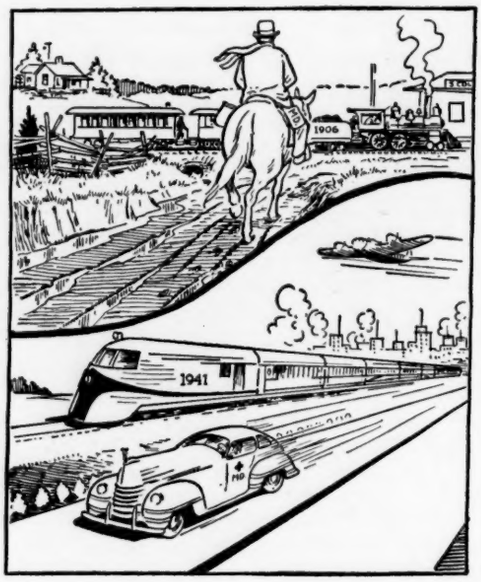

IN STEP WITH PROGRESS FOR THIRTY-FIVE YEARS

SINCE the Southern Medical Association was founded back in 1906, thirty-five years ago, there has been no deviation from that one objective laid down by the founders, the objective which distinguishes the Southern Medical Association from other professional groups—the exclusive purpose to develop and foster scientific medicine and surgery in the South.

SUCH a singleness of purpose and devotion to an ideal accounts largely for a history of unusually successful annual meetings, each better than the last. Logically, the past is a basis for predicting another top meeting at **St. Louis, November 10-13.**

REGARDLESS of any physician's medical interest, there will be much to challenge this interest at St. Louis. Eleven general clinical sessions, nineteen sections, three independent organizations meeting conjointly, and outstanding scientific and technical exhibits, will be available—**still in step with progress.**

ALL members of state and county medical societies in the South are cordially invited to attend. And all members of state and county medical societies in the South **can be** and **should be** members of the Southern Medical Association. The annual dues of $4.00 include the Southern Medical Journal, a fine publication recognized as a valuable instrument to physicians of the South in the pursuit of their professional careers.

SOUTHERN MEDICAL ASSOCIATION
Empire Building
BIRMINGHAM, ALABAMA